

## Study of institutional characteristics of social capital

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**Abstract.** The article presents a methodology for determining the quality of the norms of the institutions of social capital in the organizations. The author's model of multiple linear regression as an instrument for classifying and adjusting the qualitative level of the norms of the institutions of social capital is used. A regression model representing the environment of the institutions of social capital and the basis for reducing transactional costs is worked out. Appropriate calculations are presented. The notion of the index of the institutions of social capital in the organization is introduced into the scientific turn. The presented methodology will be useful for research in the field of quality management as a consulting service.

**Keywords.** Institutions of social capital, Elements of social capital, Norms of the institutions of social capital, Quality management, Multiple linear regression.

**JEL.** C01, C38, D23, D24, D91, O35, P31, P32.

### 1. Introduction

Specialized literature insists that in the cases when institutional norms in all organizations are of high quality, interaction between organizations is predictable, there will be a unification of norms: institutions form the “rules of the game” for market agents or actors<sup>1</sup> (North, 1997). The concept of “institution” is widely used in economics to determine the scope of economic activity and possibilities of reducing transaction costs<sup>2</sup> (TRC), the growth of which shows a decrease in the effectiveness of institutions, and as a consequence, suggests ineffective work of institutional standards, which increases the level of risk (Rudenkov, 2010; Chernovalov, Solodukha, & Chernalov, 2017). The studies of social capital are aimed at reducing TRC and increasing the economic efficiency of organizations, as well as creating the environment of the institutions of social capital (ISC), which should be considered as a special microclimate of the organization. It should be noted that the theory of social capital has not provided the practice so far with a sufficient number of practical methods which are able to influence TRC and the economic effect increase. In this connection, the studies of

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the elasticity of institutions to the existing institutional environment, carried out by a number of authors (Klyunya, 2010; Chernovalov, & Chernovalova, 2010. pp.49-54), should be paid attention to. They show that the market mechanisms built into the old socialist system of command and administration management are not able to develop the theory of social capital and provide relevant practical effects.

In this study, the norms of the institutions of social capital are an in-depth structured understanding of the aspects of social capital in organizations. The emergence of the norms of the institutions of social capital is not accidental: practically all researchers of social capital distinguish not only the basic elements (networks, norms, confidence) (LaPorta *et. al.*, 1997, pp.333-337, Macerinskene, Minkute-Henrykson, & Simanaviciene, 2006), but other characteristic components that determine its quality. Elements of ISC have been found to be sufficient: some of them make up the core of social capital research – confidence, networks and norms, others join it, but all of them can be defined as norms of the institutions of social capital. This fact introduces them in the subject of the study of institutional economy, and provides the basis for developing an institutional approach to the study and construction of the social capital of Russia and Belarus (Klyunya, 2010; Chernovalov, & Solodukha, 2017). In accordance with the author's definition, the institutions of social capital are *elements of social capital*, which, as stable norms, direct actors at achieving various economic effects and form social and economic networks (Rublevsky, 2016). In this regard, economists are developing theories of increasing the cost-effectiveness of ISC by strengthening the “confidence” between market agents or actors in the organization to improve the efficiency of management.

The latest studies of social capital presented methods for measuring and identifying indicators that reflect its manifestation in society (Grootaert, & van Bastelaer, 2001) in the form of charity, volunteering and membership in public organizations, and others (Mamsurova, 2016). For example, the measurement of social capital carried out by the World Bank, by means of specially developed questionnaires for SOCAT (Social Capital Assessment Toolkit) organizations (Afanasyev, Guzhavin, & Mekhova, 2016), touches upon various aspects of interaction of actors in the organization, and the obtained results are processed using mathematical-statistical methods (Grootaert, & van Bastelaer, 2002. pp.59-71).

The task of measuring ISC, in our opinion, is to establish a correlation link of the indicator of social capital with the indicator of value or effect and to reveal the strength of their mutual influence. Further, the obtained values of social capital indicators can be used as forecast indicators (predictors<sup>3</sup>) of the effectiveness of social capital in the organization (Grootaert, & van Bastelaer, 2001. pp.9-13). It should be noted that the previous similar studies were often point-based, that is, they considered a small number of indicators and did not represent a systematic view on the social capital of the organization. In addition, the methods of building social capital in organizations have not been developed enough and their classification is not presented so far (Chernovalov, 2010; Chernovalov, Solodukha, & Chernalov, 2017).

The norms of the institutions of social capital can manifest themselves not only as a general indicator (in such a case each norm is a determinant of a particular institution), but also as a combined index or coefficient. For example, the indicator of social capital “volunteering” is expressed by the question of participation in non-working activities of the organization, “charity” is expressed in the form of investing by the participants of the society of their personal time or material resources in the organization, etc. (Mamsurova, 2016). In this way the transformation of indicators of social capital into the norms of its institutions in the organization is realized, and their combination is an instrument for measuring social capital in the organization. In this article, the authors present a methodology for measuring ISC norms in the organization, processing of the results is carried out with the help of statistical methods. The obtained results allow determining the

quality of ISC norms in organizations and classify them according to the methods of adjusting. In 2017, the measurement of ISC norms in organizations of Russia and Belarus was carried out on the basis of the author's methodology. The study involved 3 organizations with a corporate form of ownership and the total number of more than 600 people. Based on the results of the study, the organizations received a report describing the results of interpreting the questionnaires and identifying a number of tasks to improve the ISC and recommendations to the governing body of the organization on adjusting management practices.

Two levels of ISC norms can be measured in the organization: micro-level (Sysoev, 2014) and meso-level: the micro-level measures ISC norms, functioning between actors in the organization (actor-actor), meso-level measures the relationship between actors and the organization (actor-organization). The actor is the starting point of counting: his attitude to other actors and to the organization is measured and studied, which corresponds to the established concepts of economic levels of social capital study: micro (individual), meso (group, association) (Tantardini, & Kroll, 2015).

*Methods of study.* The questionnaire matrix has 34 elements of social capital (ESC), through which the three conceptual directions of social capital study go – blocks in the survey table: the block “norms” defines the detailed view of the actors about the norms of ISC as well as clarifies a positive or negative attitude of the actor towards it; the block “networks” shows the practical interaction between the actor and the organization, the inclusion of the actor in the network activities in the organization on the basis of the norm; the block “confidence” determines the confidence of the actor to the norm which is in effect in practice, as a result we have blocks of ESC representing the tool of study in the form of a questionnaire (total 102 questions). Each question requires an unambiguous answer: “yes” or “no” (Table 1).

**Table 1.** A Fragment of the Questionnaire

Block of ESC	norms	networks	confidence
1	Are you positive about the fact that your organization is focused on making a profit?	Are you focused on making a profit in your organization?	Do you trust your organization in its commitment to make a profit?
2	Are you positive about the fact of solidarity in your organization?	Do you show solidarity in your organization?	Do you trust solidarity in your organization?

**Source:** The authors' development.

*Methods of asking questions.* When making the questionnaire, the task was to keep the study within the framework of the concept of the institutions of social capital, which required the development of the methodology of constructing the questions themselves. As a matter of fact, the questions create a “regulatory environment” of the institutions of social capital in the organization where in the blocks of elements of social capital, in each question, there are four determining factors:

1. *Element* of social capital: for example, the focus on benefit is determined by the institution of social capital.
2. *Norm.* Depending on the block, a positive attitude towards the norm, its practical application and the confidence of the actor to it are revealed.
3. *Level.* The meso-level of the study (actor-organization) is built into the question and the term “organization” is added.
4. *Benefit.* Here, the measurement is directed at norms forming relations and giving benefit to the actor (equivalents: profit, material well-being<sup>4</sup>, etc.) (see above, Table 1).

Thus, the matrix of the questionnaire presents the norms of the institutions of social capital in the form of questions in the ESC blocks. Schematically, the

question can be presented as follows: the element of social capital – the norm – the level – the profit/benefit.

*Classification of ISC norms according to methods of quality adjustment.* 45 organizations participated in the survey (15 from each). Table 2 presents the questions of the block “networks”; the questions of the blocks “norms” and “confidence” are not published, since they determine only a positive or negative attitude to the norms. The block “networks” in this study characterizes the order of application of the norm by actors in practice (Table 2). Before constructing a regression model, the following hypothesis can be formulated: *the practical application of the norm by the actor, that is, the participation of the actor in the networks of interactions – the block “networks” – are influenced by two factors: a positive attitude towards the norm (the block “norms”) and confidence to this norm (the block “confidence”).*

**Table 2.** General indicators of organizations with the samples of questions of the block “networks”

Elements of social capital	«networks»	«networks»	«norms»	«confidence»	$y_i$
		$y$	$x_1$	$x_2$	
1. Goal-directedness	Are you focused on making a profit in your organization?	32	44	31	35,90
2. Solidarity	Do you show solidarity in your organization?	37	34	24	28,86
3. Beliefs	Do you keep to beliefs in your organization?	22	30	20	25,31
4. Distribution	Do you share knowledge and information in your organization?	38	36	31	33,78
5. Values	Do you support common values in your organization?	34	35	33	34,76
6. Contact	Are you in contact with people in your organization?	40	35	29	32,26
7. Confidence	Do you maintain a trusting atmosphere in your organization?	35	35	31	33,51
8. Opportunity	Do you take up an option of deriving benefit in your organization?	28	37	30	33,42
9. Authoritarianism	Do you support the authority of your organization?	35	36	26	30,65
10. Participation	Do you take part in the activities of your organization (other than labour)?	27	29	26	28,80
11. Actor	Do you feel responsible for being a part of your organization?	38	33	27	30,48
12. Investment	Do you spend part of your personal time or material means on communication in your organization?	25	18	14	18,38
13. Public good	Do you create public good in your organization?	29	34	32	33,87
14. Crediting	Do you invest your relations (acquaintances) in your organization and benefit from it in the future?	18	28	11	19,16
15. Social capital	Do you get help in a difficult situation from your organization?	27	39	32	35,20
16. . Sanctions	Does your organization have penalties for violating other norms?	28	26	20	24,25
17. Norms (formal)	Do you act in your organization on the basis of normative legal documents?	37	38	34	36,18
18. Rules (informal)	Do you observe informal rules in your organization?	17	20	13	18,28
19. Exchange	Do you exchange benefits with your organization?	15	19	12	17,39
20. Interaction or cooperation	Do you interact and cooperate in your organization?	29	29	23	26,92
21. Capital	Do you increase mutually beneficial relationships with your organization?	17	23	21	24,08
22. Risk	Don't you take risks in your organization?	18	17	15	18,74
23. Expectations and obligations	Do you observe obligations of a mutually beneficial relationship with your organization, and do you expect the same from it?	25	18	23	24,00
24. Contract or confidential agreement	Is a contract or a confidential agreement about mutually beneficial relations concluded between you and your organization?	24	25	19	23,36
25. Opportunistic behavior	Your organization does not appropriate your profit, does it?	22	28	22	26,03
26. Behavioral aspect	Do your behavior and your organization's affect the value of your benefits?	20	23	19	22,83
27. Transaction costs	Do you reduce labor and time costs in the process of working in your organization?	21	28	25	27,91
28. Institution	Do you know and understand the difference between your organization and other organizations?	31	25	27	28,36
29. Information channels	Do you use the information and knowledge of your organization for a mutually beneficial relationship with it?	27	30	25	28,44
30. Social networks	Do you support communication in your organization, not concerning the employment relationship?	29	29	22	26,30
31. Social structure	Do you occupy a position (or workplace) in your organization according to your professional skills and education?	33	28	29	30,40
32. Social organization	Do you feel your organization's caring for you?	25	32	28	30,84
33. Resource (network)	Do you get acquainted in your organization with colleagues who are unfamiliar to you for work-related interactions?	36	35	30	32,89
34. Relationship	Do you understand the difference between good and bad relations between people in your organization?	37	36	32	34,40
Sum of positive answers of the block		956	1012	836	-

Sum of all positive answers in the survey	2084	-	-	-
$\overline{x_i y}$	$y$	870,24	726,09	-
$\overline{x_1 x_2}$	-	$x_1$	766,41	-
$\overline{x_i; y_i}$	28,12	29,76	24,59	-
$D$	49,398	44,18	40,889	-
$S$	7,03	6,65	6,39	-

**Source:** The authors' development.

To test the validity of the hypothesis, we use the method of multifactor analysis based on constructing a model of multiple linear regression using the least squares formula. Let us perform the following tasks: 1) we will construct a model of multiple linear regression and with its help we will define the calculated value for each norm of the institution of social capital, that is, we will calculate what value the norm (of the block “networks”) should have if it takes into account the influence of two factors, 2 ) we will check the statistical significance of the regression model: i.e. whether it describes the actual data sufficiently well (Marchenko, 2011). We will assign the variables to the blocks:  $y$  – the block “networks”; factors:  $x_1$  – the block “norms” and  $x_2$  is the block “confidence” (see above, Table 1) and represent the form of the multiple linear regression equation:

$$y_x = b_0 + b_1 x_1 + b_2 x_2, \tag{1}$$

where  $b_0, b_1, b_2$  are the regression coefficients.

Let us calculate the parameters of the regression equation with the help of the method of least squares using the formula (Marchenko, 2011):

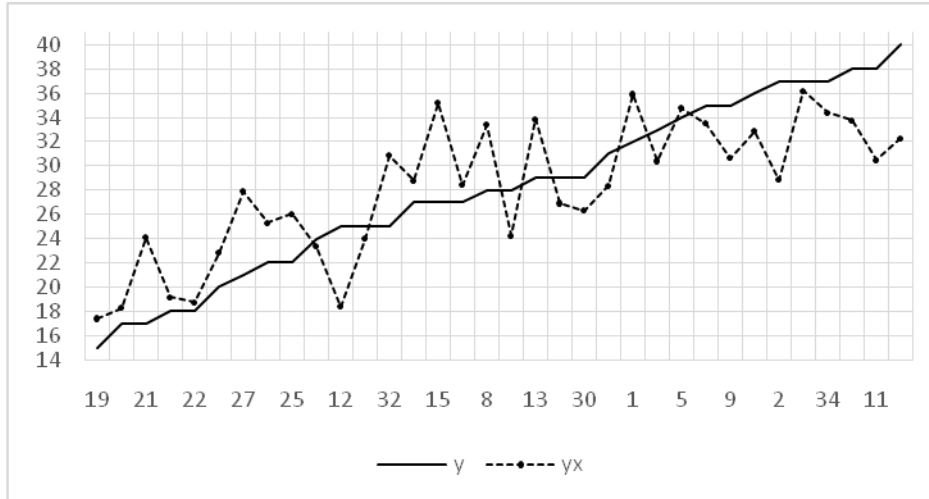
$$B = (X^T X)^{-1} X^T Y \tag{2}$$

$$B = (X^T X)^{-1} \cdot (X^T Y) = \begin{pmatrix} 0,623 & -0,0176 & -0,00278 \\ -0,0176 & 0,00196 & -0,00166 \\ -0,00278 & -0,00166 & 0,00212 \end{pmatrix} \cdot \begin{pmatrix} 956 \\ 29588 \\ 24687 \end{pmatrix} = \begin{pmatrix} 4,849 \\ 0,265 \\ 0,625 \end{pmatrix}$$

The regression equation has the form:

$$y_x = 4,849 + 0,265x_1 + 0,625x_2 \tag{3}$$

On the basis of the obtained coefficients of the equation, let us calculate the values of the block  $y_x$ (see above, Table 2) and create a diagram of the blocks  $y$  and  $y_x$ . The diagram of Fig. 1 shows how the model of multiple linear regression  $y_x$  describes the actual data of the block  $y$  (Figure 1).



**Figure 1.** The regression model (according to increasing of the block  $y$ ).  
**Source:** The authors' development.

The regression model shows the deviations of values from the actual data under the influence of some factors. Let us describe the statistical significance of the model parameters and its accuracy. Beforehand we will calculate the intermediate values: mean values of variables, dispersion and mean square deviation, etc. (Table 1). We will find the pair correlation coefficients among the variables (blocks)  $y$ ,  $x_1$  and  $x_2$  (Kadochnikova, 2013):

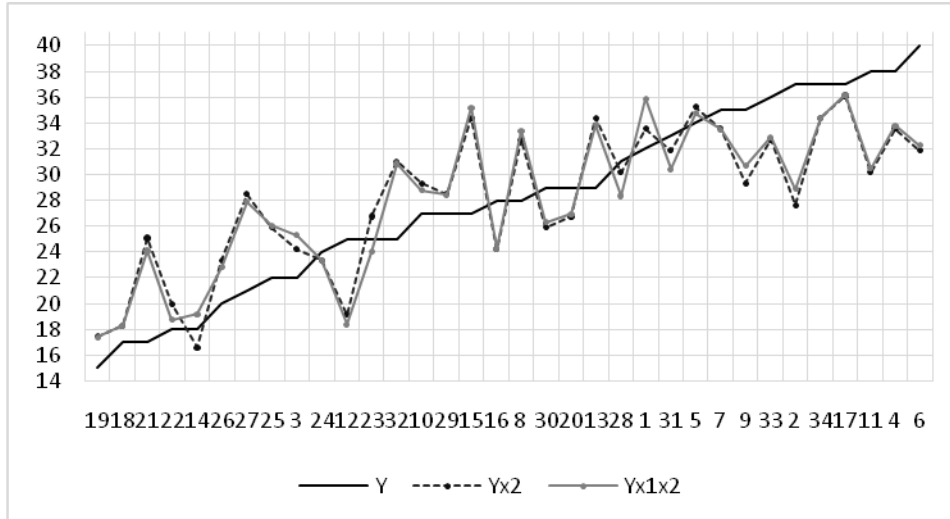
$$r_{yx_1} = \frac{\overline{x_1 y} - \overline{x_1} \cdot \overline{y}}{s_{x_1} \cdot s_y} = \frac{870,24 - 29,76 \cdot 28,12}{6,65 \cdot 7,03} = 0,713 \quad (4)$$

$$r_{yx_2} = \frac{\overline{x_2 y} - \overline{x_2} \cdot \overline{y}}{s_{x_2} \cdot s_y} = \frac{726,09 - 24,59 \cdot 28,12}{6,39 \cdot 7,03} = 0,773 \quad (5)$$

$$r_{x_1 x_2} = \frac{\overline{x_1 x_2} - \overline{x_1} \cdot \overline{x_2}}{s_{x_1} \cdot s_{x_2}} = \frac{766,41 - 24,59 \cdot 29,76}{6,65 \cdot 6,39} = 0,813 \quad (6)$$

According to the tightness of the bonds, the range of 0.7–0.9 shows a high coupling strength between the variables, which indicates a strong correlation dependence among them (Roy, 2004). It is established that the factor  $x_2$  has the greatest influence on obtaining the calculated value  $y_x$ . (Kadochnikova, 2013). All pair coefficients of correlation in this model have the value  $|r| > 0,7$ , which indicates the presence of multicollinearity of factors. There is a statistical (stochastic) dependence or partial collinearity among the variables, under which it is usually proposed to exclude a little influencing factor from the regression equation (Kadochnikova, 2013), that is, the factor  $x_1$ . Let us exclude the factor  $x_1$  from the regression model and compare the two obtained regression models  $y_{x_1 x_2}$  (plural) and  $y_{x_2}$  (simple linear). Now we observe the effect of exclusion of the factor  $x_1$  from the model, the analysis shows its significant effect on the resultant values in some blocks of ESC: 14, 23, 1, – (in the rest of the cases, the exclusion of this factor from the model is unnoticeable) and we conclude that the exclusion of the factor  $x_1$  from the model is not allowed for the accuracy of the model (Figure 2).





**Figure 2.** Comparison of regression models.  
**Source:** The authors' development.

Let us check the significance of the obtained pair coefficients of correlation with the help of Student's t-criterion. The coefficients for which the values of t-statistics are greater than the found critical value are considered significant. Let us calculate the statistical significance of the correlation coefficient for  $r_{yx1}$  and  $r_{yx2}$  (Marchenko, 2011):

$$t_{yx_1} = r_{yx_1} \frac{\sqrt{n-m-1}}{\sqrt{1-r_{yx_1}^2}} = 0,71 \frac{\sqrt{34-1-1}}{\sqrt{1-0,71^2}} = 5,76 \quad (7)$$

$$t_{yx_2} = r_{yx_2} \frac{\sqrt{n-m-1}}{\sqrt{1-r_{yx_2}^2}} = 0,77 \frac{\sqrt{34-1-1}}{\sqrt{1-0,77^2}} = 6,88 \quad (8)$$

where  $n = 34$  is the quantity of ISC norms,  $m = 1$  is the quantity of factors in the regression equation. According to Student's table, we find  $t_{tabular} = t_{criterion} (n-m-1; \alpha = (0,05) = (32; 0,05) = 2,021$  (Marchenko, 2011). Since  $t_{yx1} > t_{criterion} (6,88 > 2,021)$ , и  $t_{yx2} > t_{criterion} (6,88 > 2,021)$ , then the correlation coefficients are statistically significant.

To expand the analysis of the regression model, it is necessary to clarify how well the regression equation describes the actual data and how the factors influence the result. To do this, we will use the coefficient of multiple correlation, which shows that if the value of R is close to 1, then the regression equation better describes the actual data and the factors have a stronger effect on the result. If R is close to 0, the regression equation poorly describes the actual data and the factors have little effect on the result. Let us calculate the coefficient of multiple correlation (Marchenko, 2011):

$$R = \sqrt{1 - \frac{\sum (y - y_x)^2}{\sum (y - \bar{y})^2}} = \sqrt{1 - \frac{640,93}{1679,53}} = 0,7864 \quad (9)$$

where  $y_x$  is the calculated value by the equation. The obtained value shows: the relationship and effect on the result is strong between the criterion  $y$  and the factors  $x_i$ .

Let us check the general quality of the multiple regression equation. The evaluation of the significance of the multiple regression equation is carried out by

testing the hypothesis of the equality of the coefficient of determination calculated from the data of the general population to zero (Kadochnikova, 2013). Besides the actual (observed) value of Fisher’s F-criterion is calculated using the determination coefficient  $R^2$ , calculated from the data of a specific observation (Marchenko, 2011). Let us calculate both indicators:

$$R^2 = 1 - \frac{\sum (y - y_x)^2}{\sum (y - \bar{y})^2} = 1 - \frac{640,93}{1679,53} = 0,6184 \quad (10)$$

$$F = \frac{R^2}{1 - R^2} \cdot \frac{n - m - 1}{m} = \frac{0,6184}{1 - 0,6184} \cdot \frac{34 - 2 - 1}{2} = 25,12 \quad (11)$$

According to Fisher’s distribution table, we will find the critical value of the F-criterion, for the significance level  $\alpha$  (0.05) with the two numbers of the degrees of freedom  $k_1$  and  $k_2$ . If the degrees of freedom  $k_1 = 2$  and  $k_2 = n - m - 1 = 34 - 2 - 1 = 31$ , we obtain the tabular value  $F_{\text{crit}}(2; 31) = 3,23$  (Rebro, 2011). Since the actual value is  $25.12 > 3.23$ , the determination coefficient is statistically significant and the regression equation is statistically reliable (i. e, the coefficients  $b_i$  are jointly significant).

Since testing the model for heteroscedasticity is one of the necessary procedures for constructing regression models, we will check it using a method of graphical analysis of the remainder: on the abscissa axis we will place the values of the explanatory variable  $x_i$ , and on the ordinate axis we will place the deviation  $e_i$  (Fig. 3).

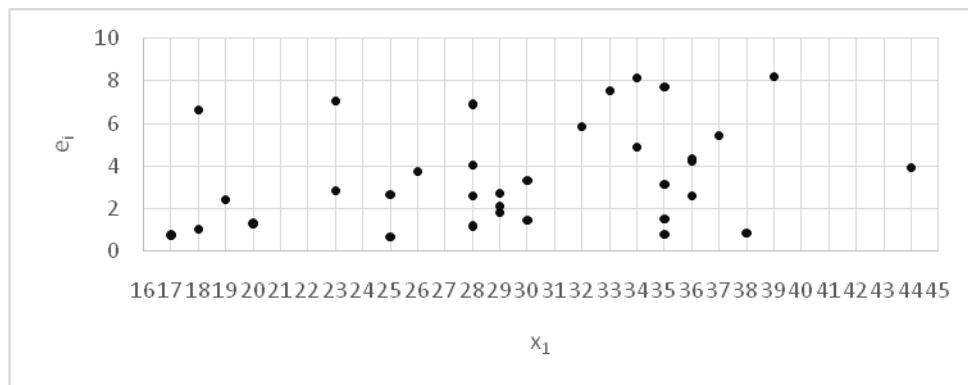


Figure 3. Checking the regression model for heteroscedasticity.

Source: The authors’ development.

On the diagram, we observe the absence of the connection among the deviations, which indicates the absence of heteroscedasticity (Kadochnikova, 2013).

We do not test the regression model for autocorrelation, since the sample data are not time series. It is important for us to determine how accurately this regression model describes the original data. Let us calculate the average error of approximation:

$$\bar{A} = \frac{\sum \left| \frac{y - y_x}{y} \right|}{n} \cdot 100\% = \frac{4,585}{34} \cdot 100\% = 13,48\% \quad (12)$$

The value of the average approximation error is up to 15%, which indicates a well-chosen regression model to the original data (Marchenko, 2011).



Thus, the interpretation of the model parameters is as follows: an increase in  $x_1$  by 1 unit of measurement increases the value  $y_x$  on average by 0.265 units; an increase in  $x_2$  by a unit of measurement increases the value  $y_x$  by an average of 0.625 units. The statistical significance of the equation is confirmed (Tantardini, & Kroll, 2015; La Porta, et al., 1997). The coefficient of determination is statistically significant and the regression equation is statistically reliable. The relationship between the criterion  $y$  and the factors  $x_i$  is strong. Heteroscedasticity is absent. The permissible limit of the mean error of approximation error is in norm and this model describes the initial data well.

Let us present a tool for the classification of the ISC norms using the method of adjustment based on the indicators of their quality. To do this, we will use the constructed regression model placing the negative and positive values of  $y_x$  against the zero values of  $y_{(0)}$  (Fig. 4).

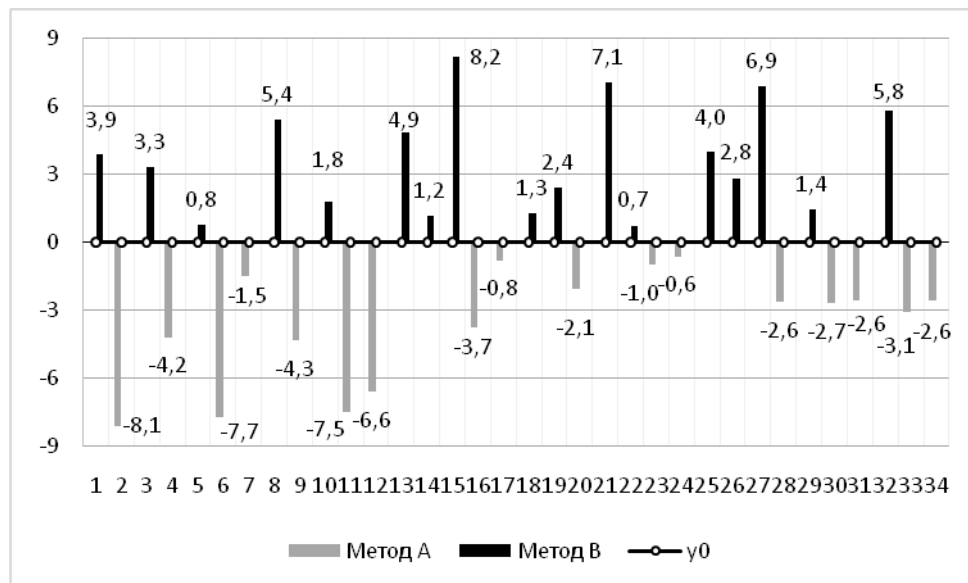


Figure 4. Instrument for the classification of ESC by methods of adjusting ISC.  
Source: The authors' development.

Based on the obtained regression model (Fig. 4), we will determine the maximum range of deviations of the values  $y_x$  from  $y_{(0)}$   $|8,2-0|$ , and calculate the three levels of  $8,2 / 3 = 2,73$  – the quality of the ISC norm: 1. high –  $|0 - 2,73|$ , 2. medium –  $|2,74 - 5,47|$ , 3. low –  $|5,48 - 8,2|$ . The logic for determining the quality of the ISC rate is as follows: the closer the value  $|y_x|$  to the value  $y_{(0)}$ , the higher is the quality of the norm (Fig. 4). From this it follows that the adjustment of the quality of the norm, first of all, is necessary for the norms with a low level of quality.

Using the obtained values of the quality levels of ISC norms, we will classify the norms according to the methods of their adjustment. In Fig. 4. we observe: if in the ESC blocks the value of the block  $y_x$  is positive (higher than the value of the block  $y_{(0)}$ ), then to improve the quality of the norm it is necessary to apply the methods increasing the value of the block  $y$ , due to the practical application of the norm, it is the class of methods B, if in the ESC block the value of  $y_x$  is negative (below the value of the block  $y_{(0)}$ ), then to adjust the quality of the norm it is necessary to lower the value of  $y$ , that is, to apply methods of reducing the costs caused by the practical action of the norm – this is the class of methods A. Based on this technique, let us classify the ISC norms using the methods of adjustment and quality level (Table 3):

Table 3

**Table 3.** *Classification of ISC norms and recommended activities*

Levels	Method A	Method B	Adjustment
high	7, 17, 20, 23, 24, 28, 30, 31, 34	5, 10, 14, 18, 19, 22, 29	Optional activities for some ISC rules
medium	4, 9, 16, 33	1, 3, 8, 13, 25	Possible activities for some ISC norms
low	2, 6, 11, 12.	15, 21, 27, 32	Activities are required for all ISC norms

**Source:** The authors' development.

On the basis of the selection of ISC norms (Table 3), it can be concluded that it is necessary to develop the methods of adjusting parameters of norms with a low level of quality. Let us describe the problems of the selected norms of the class of methods A: 2. Solidarity – the actors would like to reduce the costs associated with solidarity in the organization; 6. Contact – the actors would like to reduce the costs associated with contacts in the organization; 11. Actor – the actors would like to reduce the costs associated with the responsibility for the organization; 12. Investing – the actors would like to reduce the costs associated with the costs of their personal time and material resources for the organization. The class of methods B: 15. Social capital – the actors would like to receive more help from the organization when they find themselves in a difficult situation; 21. Capital – the actors do not have enough mutually beneficial relations with the organization; 27. Transaction costs – the actors are interested in reducing costs in the organization; 32. Social organization – the actors do not have enough existing caring for them in the organization. Thus, the norms with a low level of quality have been defined and the next task is to develop the methods to improve their quality.

The obtained indicators from the organizations make it possible to calculate the general index of the institutions of social capital (see above, Table 2) using the following formula (Roy, 2004):

$$SC_o = \frac{\sum z_n}{q \cdot a} \cdot 100 = \frac{2084}{102 \cdot 45} \cdot 100 = 61,09\% \quad (13)$$

where  $SC_o$  is the index of the institutions of social capital of organizations;  $z$  is a positive answer in the questionnaire;  $a$  is a number of actors participating in the survey;  $q = 102$  is a number of all questions in the questionnaire.

To calculate the total coefficient of ISC, we will use the offered formula without calculating the interest (Roy, 2004):

$$SC_k = \frac{\sum z_n}{q \cdot a} = \frac{2084}{102 \cdot 45} = 0,61 \quad (14)$$

where  $SC_k$  is the coefficient of the institutions of social capital of organizations.

To determine the level of the institutions of social capital, the authors offer the following scale of 3 levels (100/3): 0-33% – low, 34-66% – medium, 67-100% – high. Thus, the general index of the institutions of social capital of organizations shows that in the modeled network of social and economic interactions in the organizations of Russia and Belarus at the meso-level (actor-organization) the norms of the institutions of social capital function at a level of 61.09% (average meaning).

## 2. Conclusion

The measurement of the norms of the institutions of social capital in the organization, as it seems to us, shows that the existing level of research of the institutions of social capital should be continued, especially taking into account the coming significant transformations of social systems under the conditions of digital economy (Chernoalov, Solodukha, & Chernalov, 2017; Chernoalov, & Solodukha, 2017). For some ISC norms, it is necessary to carry out additional research directly at enterprises, and then determine the methods of adjusting

problem norms. As practice shows, in most cases in organizations, they know the existing problems in the field of social capital, but solve them using traditional methods known to the governing body. In the specialized literature, particular attention is paid to the possibilities of social capital to influence, increase and promote the prosperity of organizations and society. However, clear methods and methodology for constructing social capital in organizations are not available yet, and mainly due to the lack of quantitative analysis in this area. Besides, the elements of social capital are not systematized, norms of its institutions are not singled out for further development of the methods of their measurement and adjustment.

The presented methodology for determining the quality level of the norms of the institutions of social capital and their adjustment lays the foundation for the development of institutional methods of constructing social capital in organizations at the meso-level. As the studies show, in Russia and Belarus it is necessary to improve the quality of the relationship between the actor and the organization by solving the following tasks: 1) the introduction and measurement of the norms of the institutions of social capital in organizations; 2) the study of the theory of the institutions of social capital in organizations while training the personnel at the institutions of higher education; 3) the development of methods of adjusting the norms of the institutions of social capital in organizations.

### Notes

<sup>1</sup> The actor - an economic entity, an individual, a colleague at work, etc., that is, one who makes up social capital and is its unit.

<sup>2</sup> Transaction costs - the costs that arise in connection with the conclusion of contracts; costs that accompany the relationship of economic agents.

<sup>3</sup> Predictor - a prognostic parameter; a forecasting tool.

<sup>4</sup> Material well-being is the formed money-capital and real estate, services received and other benefits (equivalent costs or having indirect value) that make up the economic safety margin of the actor.

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