

CORPORATIVE SOCIAL RESPONSIBILITY AS A FACTOR OF REDUCING THE OCCUPATIONAL HEALTH RISK OF PERSONNEL

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Abstract: *The paper is devoted to the formation and development of the phenomenon of corporate social responsibility (CRS) in Russia from a perspective of the working conditions and occupational health risks of personnel employed in the Russian firms. The authors formulate the hypothesis of the research as followed: there is absence of universal conception of CRS nature and value for business and society development between both scientific community and entrepreneurs, and it affects negatively on reducing the quantity of workplace having high occupational health risks. The authors conducted the methodic approach to estimate how working conditions influence on mortality of the working age population. Also they explored the dynamics of working conditions indicators in Russia in the period of 2000-2014. The author eliminated the latent relation between mortality of the working age population and working conditions, and the gender difference in dynamics of this indicator. In conclusion, the authors highlight that the deliberate state policy of occupational safety is important and different programs of working conditions improvement are needed to become the top issue of CRS.*

Keywords: *Occupational health risks, occupational injuries, occupational morbidity, corporate social responsibility.*

1. INTRODUCTION

Integration of Russian economy into the world economic space requires the compliance of national business to the international criteria and standards of socially responsible mode of business. Designed primarily for improving the social role of business in society, the concept of corporate social responsibility (CSR) currently is the most popular to justify theoretically the harmonization of industrial relations (Aguilera, et al., 2007, Aguinis, & Glavas, 2013, Collier, & Esteban, 2007, Danilina, & Mingaleva, 2013, Stites, & Michael, 2011). In this regard, the development of corporate social responsibility of Russian firms is significant (Blagov, 2010, Mingaleva, 2016, Shakhovoy, 2008).

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The key issue of CRS implementation is improving the quality of life and preserving health of workers, including the creation of safe workplace. Poor working conditions at Russian enterprises are the reason for high level of occupational injuries and occupational morbidity. Each year about 200 thousand people get occupational injuries; more than 10 thousand cases of occupational diseases happen; more than 14 thousand persons become incapacitated by occupational injury and diseases. Furthermore, the reality may be even worse, because statistics does not consider deferred damage to the personnel health such as occupational-caused morbidity, broken immunity, accelerated aging, and disorders of workers reproductive functions, i.e. the so-called “hidden occupational risks” (Tatarkin, Kozlova, & Garkavenko, 2013). The close interaction between the state and business in the field of working conditions improvement through the CRS development should become an effective tool for solving this problem. Thus, this paper is attempted to solve the stated problem.

2. LITERATURE REVIEW

A. Carroll formulated systematic approach to the study of the phenomenon of social responsibility (Carroll, 1991). According to his research, there are four main areas of CRS being closely interrelated and interdependent with each other: economic, legal, ethical, philanthropic. The first area reflects the economic benefit, which is thought the basic responsibility of a firm. The second one includes legal responsibility that means the observance of legislative framework. The third one assumes keeping the ethic rule “do no harm” in accordance with the ethical and moral standards of a local society. The fourth area represents the charity as the highest form of responsibility including the corporate social programs.

Later a philanthropic component was excluded, and the researchers justified that any organization ought to combine all three areas (Blagov, 2010). Thus, the CSR development depends on the variations of their combinations. Russian researchers proposed to consider two levels of CRS such as obligatory and voluntary, and analyze both external and internal points of view. The obligatory CRS force managers to respond to the consequences of production impact. The voluntary CRS includes activities that do not interfere the production and its impact on both environment and society (Morozova, 2011).

The European commission on CRS defines it as follows: “the enterprises responsibility for their impacts on society” that is voluntary contribution of business to society development in social, economic and environmental spheres being directly connected with primary activity of the firms and overpass the legislative framework (*The strategy of the European Commission on CSR for 2011-2014*, 2011). Therefore, the CRS is thought to be just a tool of management that allows increasing business

reputation and company capitalization, establishing the effective relations with all stakeholders such as government, shareholders, consumers, employees, partners, local communities, and managing effectively the non-production risks (*Shakhovoy*, 2008). World Business Council for Sustainable Development suggests CSR to be a commitment to economic growth along with improving life quality of workers, their families, and society as a whole (*WBCSD Stakeholder Dialogue on CSR*, 1998).

International standard ISO 26000:2010 "Guidance on social responsibility" defines CRS as responsibility of an organization for the impacts of its decisions and activities on society and the environment, through transparent and ethical behavior that contributes to sustainable development, including health and welfare of society; takes into account the expectations of stakeholders; is in compliance with applicable law and consistent with international norms of behavior; and is integrated throughout the organization and practiced in its relationships (*Draft International Standard ISO/DIS 26000:2010*, 2009). This international document helps companies and organizations to put principles into the effective actions taking into account the best practices in the field of CRS in a global scale. It should be noted that ISO 26000:2010 provides guidance for voluntary action rather than mandatory requirements, so it is not certified. Russia adopted the national standard GOST R ISO 26000-2012 "Guidance on social responsibility" in 2012 that is for developing the instruments and initiatives and ensuring the understanding between CRS actors.

Thus, the analysis and synthesis of numerous definitions of CRS allows characterizing this tool of social relations as a system of principles and practical approaches to manage organization including its responsibility toward society and environment, but also staff of organization.

Considering working conditions development as a key issue of CRS, it should be noted its strong connection with personnel health. The experts of World Health Organization defined health as a complex demographic, social and economic phenomenon and specified the four key factors of its formation. Thus, health is determined by genetics (18-22% impact), healthcare system (8-10% impact), environment (18-20%), social and economic conditions and life style including working conditions (49-53% impact) (*World Health Organization*, 2016). The report "On the state of the sanitary and epidemiological welfare of the population in the Russian Federation in 2014" pays great attention to the living conditions and notes that 63,5% of population in Russia is under the bad influence of sanitary and hygienic factors including working conditions (*On the state of the sanitary: national report*, 2015).

There is a worldwide number of papers devoted to the impact of different factors on workforce health (including premature mortality). However, the most part of them depends on the development of medicine. For example, V. Yumaguzina and M. Vinnik explored traumatic mortality and concluded that not only behavioral

but also economic and surrounding factors caused high mortality rates (Yumaguzin, & Vinnik, 2014). G. Tikhonova and T. Gorchakova made the same conclusion. They highlighted that during the last decade the structure of mortality causes was degrading and the exogenous causes percentage was rising. Thus, the structure of mortality causes in Russia becomes more similar with the one of the countries with low life quality and poor healthcare system (Tikhonova, & Gorchakova, 2010). In addition, the same results are described in other researches (Derstuganova, & Velichkovskiy, 2013; Tskhay, 2014; Shabunova, et al., 2012).

3. DATA AND METHODS

Data

Data includes the researches of Russian and foreign scientists devoted to the CRS development and the correlation between the working conditions and personnel health in terms of CRS conception. In addition, we use the reports submitted by State Labor Inspectorate and the Federal Service for Supervision of Consumer Rights Protection and Human Welfare of the Russian Federation, the reports of CRS implementation submitted by Russian industrial companies on-line, and statistics of the working conditions in Russia in the period of 2000-2014 provided by Federal State Statistics Service.

Methods

According to the purpose of the paper, the sociocultural approach is the methodological basis to determine the nature of CRS phenomenon and estimate social and cultural factors reinforcing the humanization of labor. The object of the research is working conditions in industrial production. The research includes three steps:

- theoretical justification of CRS conception and detection of the significance of working conditions in CRS development,
- analysis of dynamic series indicators concerning the working conditions and their impact on health of the working age population,
- comparative evaluation of CRS development in the four biggest industrial companies in Russia having the high negative influence on the environment and a significant percentage of harmful production processes that provoke high rates of occupational health risks.

The authors conducted methodic approach to estimate how working conditions influence on mortality of working age population. It contains a set of indicators, algorithm of calculation and comparative assessments.

We obtained the indicators following the principles of distance, objectivity, comparability, and verification of data. The involved indicators are:

- population employed in harmful working conditions, % of total employees at the end of year;
- growth rate of physical volume of investments in fixed capital, % of corresponding period of previous year;
- degree of fixed assets deterioration, % at the year end;
- mortality rate of the working age population, per 1000 representatives.

For the sake of using the statistical operations, all the three indicators of the working conditions were converted in a comparable shape using formula (1):

$$x' = \frac{x_{\max} - x}{x_{\max} - x_{\min}} \quad (1)$$

X' – a converted index; x – a certain meaning of an indicator; x_{\min} , x_{\max} – the lowest and the highest meaning of an indicator accordingly. Thus, a converted index equal to 1 means the best dynamics of an indicator, converted index equal to 0 means the worst dynamics of an indicator. Then the three converted indexes were united in an integrated figure of the working conditions that was equal to the average meaning of them. The integrated figure takes numeric interval [0; 1]. The value equal to 1 means the best dynamics of an integrated figure, the value equal to 0 means the worst dynamics of an integrated figure.

We used formula (2) to convert the mortality rate of the working age population.

$$x' = \frac{x - x_{\min}}{x_{\max} - x_{\min}} \quad (2)$$

X'' – a converted index; x – a certain meaning of an indicator; x_{\min} , x_{\max} – the lowest and the highest meaning of an indicator accordingly. Thus, the interpretation is opposite, namely, a converted index equal to 0 means the best dynamics of an indicator, a converted index equal to 1 means the worst dynamics of this indicator.

After all mathematical operations, the correlation analysis was conducted involving the integrated figure of the working conditions and the mortality rate figure.

4. RESULTS

Analyzing the dynamics of the mentioned indicators in the period 2000-2014, we should notice that the working conditions have been getting worse. The percentage

of population employed in harmful working conditions have raised from 25,3 to 55,2% because of increasing the proportion of workplaces which have both the violation of the sanitary-hygienic standards (+18 p.p.) and severity of the working process (+12,3 p.p.). Furthermore, the escalating degree of fixed assets deterioration was an additional factor of the working conditions degradation. We should mention that the investments in fixed capital grew during these years but cannot compensate the fixed assets deterioration (see Table 1) (*Social and economic indicators of Russian Federation in 1991-2014*, 2015).

Table 1
Dynamics of the working conditions indicators in Russia in 2000-2014

<i>Indicators</i>	<i>2000</i>	<i>2005</i>	<i>2009</i>	<i>2013</i>	<i>2014</i>
<i>Working conditions</i>					
Population employed in harmful working conditions, % including the workplaces with:	25,3	27,7	36,2	45,0	55,2
violation of the sanitary-hygienic standards, %	21,7	23,4	28,2	33,4	39,7
severity of the working process, %	3,2	4,3	8,0	11,6	15,5
Degree of fixed assets deterioration at the end of year, %	45,8	44,1	44,3	46,3	47,9
Growth rate of physical volume of investments in fixed capital, % of corresponding period of previous year	117,4	110,9	83,8	100,8	97,3
<i>Occupational health risks of personnel</i>					
Number of victims in case of accidents on manufacture with disability for one working day or more and fatalities, persons per 1000 employees	5,1	3,1	2,1	1,9	1,4
Number of cases of temporary disability, per 100 employees	No data	61,6	62,6	56,7	48,7
Number of patients with first time established occupational disease (poisoning), per 10000 employees	1,81	1,69	1,70	1,53	1,48

Using the elaborated methodic approach, we have analyzed the correlation between the working conditions indicators and the mortality rate of the working age population which indirectly represents health of the employees. We have discovered the 'mortality rate of working age population' figure responds on the shift of the 'working conditions' figure with a delay, and a time lag attains 1-3 year (see Figure 1) (*Demographic Yearbook of Russia*, 2015; *Social and economic indicators of Russian Federation in 1991-2014*). For example, the accumulated degradation of the working conditions in 2000-2002 resulted in the increasing mortality rate during the next three years (2002-2005). Then, the improvement of the working conditions in 2002-2004 provided the decreasing mortality rate in 2005-2009.

The regression analysis has proved the correlation between the mortality rate of the working age population and the working conditions in Russia:

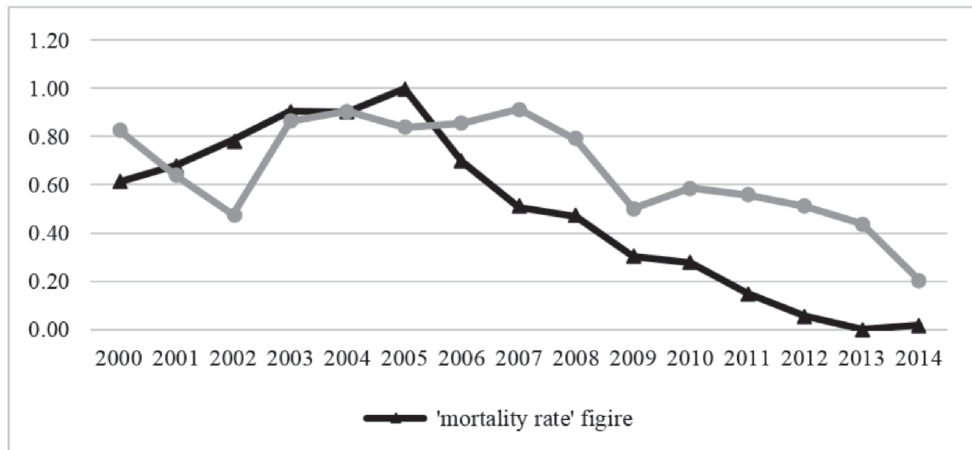


Figure 1: Dynamics of the working conditions figure and mortality rate of working age population figure

$$I_{\text{mort}} = -0,22 + 1,06 \times I_{\text{cond}} \quad R^2 = 0,56 \quad (3)$$

I_{mort} - 'mortality rate of working age population' figure; I_{cond} - 'working conditions' figure.

The equation (3) shows that the correlation between the mortality rate of the working age population and the working conditions is strong and straight (correlation factor $R = 0,75$). Thus, the 'working conditions' figure improvement of 10% results in 'mortality rate of working age population' figure decrease of 10,6%. The contribution of the factor of the working conditions to the variation of the mortality rate is 56%.

We supposed the gender gap to be significant for the mentioned correlation, and the regression analysis confirmed it. The equation (4) and (5) shows the influence of the working conditions upon health according to gender.

$$I_{\text{mort male}} = -0,27 + 1,06 \times I_{\text{cond}} \quad R^2 = 0,54 \quad (4)$$

$$I_{\text{mort female}} = -0,24 + 1,13 \times I_{\text{conf}} \quad R^2 = 0,47 \quad (5)$$

The 'working conditions' figure improvement of 10% results in 'mortality rate of working age population' figure decrease of 11,6% for men and 11,3% for women. The contribution of the factor of the working conditions to the variation of the mortality rate is 54% and 47% accordingly. It should be highlighted that the elasticity of the 'working condition' figure of women is lower because of minor proportion of female workplace with the harmful working conditions.

Furthermore, Russian companies have been investing in personnel and territorial development in terms of CRS implementation. Table 2 shows that in 2014 the biggest Russian industrial companies have made CRS investments mainly in the

environmental protection (*Annual report "Rosneft" for 2014, Annual report "Lukoil" for 2014, Annual report "Magnitogorsk Iron and Steel Works" (MMK) for 2014, Annual report "Severstal" for 2014*). Less than 10% of such investments are devoted directly to the working conditions development. In addition, the companies have put money to different social programs including health maintenance of personnel and local population. All these investments ought to decrease the occupational health risks both directly and indirectly.

Table 2
CRS investment of the biggest Russian industrial companies in 2014, %

<i>Aspects of CRS investment</i>	<i>"Rosneft"</i>	<i>"Lukoil"</i>	<i>"MMK"</i>	<i>"Severstal"</i>
Protection of the environment	58,3	43,8	39,8	47,7
Capital constructions aimed to protect the environment (e.g. treatment plants)	17,3	28,5	35,9	41,9
Labor protection, industrial safety, working conditions development	8,4	7,4	6,2	6,5
Social programs for employees	14,0	14,2	11,0	3,9
Charity	1,2	2,1	7,1	-
Social programs for local community	0,8	4,0	-	-
Total	100,0	100,0	100,0	100,0

5. DISCUSSION

Reflecting the consequences of the bad working conditions, the indicators of the occupational health risks have had a positive trend namely the number of victims in case of accidents on manufacture has decreased from 5,1 to 1,4 per 1000 employees; the number of cases of temporary disability has decreased from 61,6 to 48,7 per 100 employees; and the number of patients with first time experienced occupational disease (poisoning) has downgraded from 1,81 to 1,48 per 10000 employees.

Such a trend should be thought favorable but it contradicts the dynamics of working conditions indicators. This fact might be the result of quality and objectivity of statistical data, and the report of State Labor Inspectorate of the Russian Federation presented in 2014 includes the indirect evidences of it (*Report "On implementation and effectiveness..", 2014*). This report notices that inspecting the working conditions and investigating the accidents on manufacture, the experts of State Labor Inspectorate have established more than 631 thousand violations of labor legislation including labor protection law. Namely, they have discovered:

- conducting medical examinations of employees – 19 thousand violations;
- training and briefing of employees on labor protection – over 99,7 thousand violations;

- providing employees with individual and collective protection – over 39,5 thousand violations;
- investigation, registration and accounting of accidents on manufacture – over 14,8 thousand violations;
- other issues of labor protection – 94,6 thousand violations.

We have already mentioned downgraded mortality rate of the working age population besides the degradation of the working conditions. This trend is supposed to be the result of the governmental policy of public health and labor protection.

6. CONCLUSIONS

In conclusion, we should highlight that the last decade of national economic development focused on the reducing costs, increasing efficiency and productivity while the issues of labor protection and occupational safety were out of agenda. It resulted in an increase of industrial accidents and traumas that mean human loss.

The regression analysis displayed strong correlation between working conditions and mortality rate of working age population with the certain time lag. The comparative analysis of working conditions dynamics in Russia in the period of 2000-2014 reflected two contradictory trends. On the one hand, the number of victims in case of accidents on manufactures and cases of temporary disability decreases confirming the reduction of occupational health risks. On the other hand, the percentage of population employed in harmful working conditions increases reinforcing the damage to health and provoking the premature mortality of the employees. In addition, constant expansion of fixed assets deterioration fosters the degradation of working conditions.

The described problem of working conditions degradation demonstrates that neither government nor business have mature policy of working conditions development. Some of the Russian industrial companies have initiated CRS programs but their implementation has not resulted in the significant improvement of working conditions yet. Thus, the effective policy of working conditions development ought to incorporate both close cooperation of state and business to implement CRS and intensive enlargement of number of its participants.

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