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MANAGEMENT SYSTEM OF THE ORGANIZATION PERFORMANCE INDICATORS IN THE CONDITIONS OF BUSINESS PROCESSES REALIZATION

Abstract: *This article discusses the problem of the effective work of managers of industrial enterprises, which is the basis of economic development in modern Russia. The authors suggest that the management of the system of performance indicators in managers in the conditions of realization of various business processes can reduce the risk of crises in the enterprise, and improve the efficiency of labour management and productivity in the company in a whole. According to the authors, improving the efficiency of management in the conditions of implementation of the various business processes of industrial enterprises is an integral element of the overall strategic development of the company. The article presents the results of work performance assessment of managers in the implementation of business process management. In this article there is developed performance business process management on the example of the metal cutting enterprise management levels: the corporate level, the first operational level, the second operational level, and the line level. For these indicators the performers are defined and criteria are given.*

Keywords: *industrial enterprises, business processes, evaluation indicators, development strategy, labor efficiency, productivity*

1. Introduction

Transition of the Russian economy to an innovative way of development is possible only through efficient human resource management mechanism where its innovative component plays an important role. Currently, the economic conditions become more complex requiring the attention to the dynamics of the social and labor issues and study of the innovation mechanisms in human resource management. Decline in production, high inflation, crisis in many businesses and industries and limited access to credit thwart the development of human resources and limit the output of competitive products. (Gagarinskii, 2012)

Currently, the market of raw materials for steel production observed the changing nature of competition - there is more competition for the expense of investors, and owners. The investor, investing money into production,

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expects its investment yields a certain level tobe determined depending on the price of possible use of capital invested in another business project with the same level of risk. If the total income of the investor (the growth of the market value of the invested capital and the proceeds from the distribution of profit) exceeds the required level, the company creates added value for its owners.

Otherwise, the cost is destroyed.

To provide competitive advantages scrap processing enterprises need to improve the use of human resources, especially the managers, because their activity is a factor of formation of the competitive advantages of the company. However, managers of companies, pursuing personal goals are often not interested in improving the well-being of shareholders, including due to the lack of specific guidance effectiveness of their work and adequate motivation in achieving the set targets. It is therefore necessary to develop a system to stimulate the results of work of managers scrap processing enterprises on the basis of KPI system, aimed at improving the efficiency of use of resources of the enterprise that is the subject of this case-study.

For this case- study the following objectives were determined:

1) Identify key business processes to assess the manager's contribution to the final results of the scrap processing enterprises.
2) Develop interconnected by levels of management KPI system performance with respect to the stimulation of the results of work of managers at various levels.
3) Develop a methodology to assess the results of work of managers scrap processing enterprises on the basis of the developed KPI indicators at each level of management.
4) Perform testing of the developed theoretical and methodological provisions for the development of employment stimulation results system managers to scrap processing enterprises of the Russian Federation.

2. Quality Improvement Approaches

The need to set the Russian economy on the path of innovation and strategic development suggests the development of modern business methods and tools aimed at identifying and efficient use of the internal potential of each enterprise, taking into account the specifics of its activities. Industrial enterprises face a set of complex challenges related to managing the business activities. (Gagarinski, 2013; Gagarinski *et al.*, 2015; Stanyuta, 2014; Timarsuev, 2015; Dejanović *et al.*, 2015).

Cost-effectiveness is related not only to economic, but also social aspects. For example, improvement of work conditions, increasing work's attractiveness, improvement of the environment contribute to increased productivity and, ultimately, cost savings per unit of useful result.

To determine the efficiency of the technical measures, it is important to consider increasing the productivity, reduction of working time losses due to reduction of workers morbidity, injuries, etc.

As for social efficiency during reconstruction, it is influenced by much more variables, rather than just the economic one, and often depends on factors that are difficult to take into account. (Gagarinskaia, 2015; Gagarinskii, 2011; Olve *et al.*, 1999, Salah *et al.*, 2013).

Creating right combination of different criteria and focused on sustainability reporting is a big problem to be solved by governments, stock exchanges, and regulators in order to carry out the important task, i.e. to ensure that investors and the public at large necessary data on environment, social activities, and corporate management. (Xirogiannis *et al.*, 2008)

Kaplan and Norton expected that after some time these requirements to reporting will lead

to merging of today's standard financial reports with voluntary reports on environment, social activity, and corporate management in their current form. (Kaplan and Norton, 2001; Kaplan and Norton, 2006).

Ideally, routine study of basic stability indicators of the company should provide an opportunity to compare the current performance indicators of the company and its rating against similar indicators of the other companies in the industry. Compulsory inclusion in reports the specific key performance indicators of the sector will give basic understanding of the most important aspects of the company's interaction with the society and the environment. (Jovanovic *et al.*, 2010; Jovanovic, 2011; Roe, 2013)

3. Analysis of enterprise efficiency indicators

Let's consider the indicator specifics of scrap processing enterprise. Some of the key performance indicators of Enterprise 1 for recent years are shown in Figure 1.

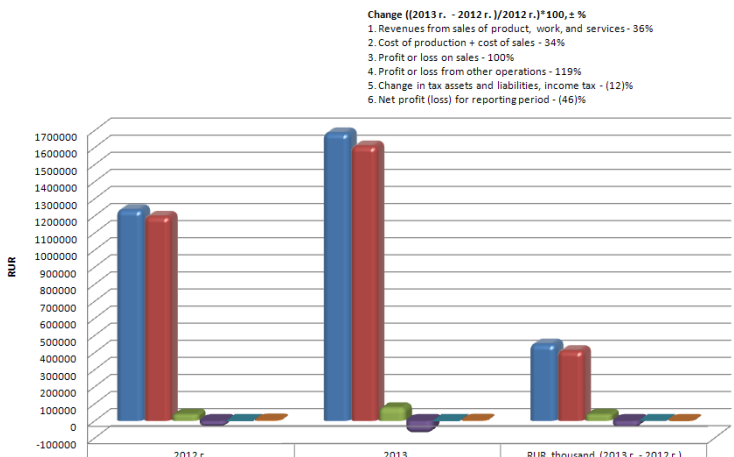
Research of performance indicator system for work of the managers in scrap processing enterprises was conducted at Enterprise 1, Enterprise 2 and Enterprise 3. Enterprises under survey are involved in collection and processing of scrap with its subsequent delivery to the industrial enterprises.

Main business activities of Enterprise 1, Enterprise 2 and Enterprise 3 are:

- collecting, storing, processing and sale of ferrous scrap;
- collecting, storing, processing and sale of nonferrous scrap;
- wholesale of metals in original form;
- wholesale of waste metal and scrap;
- organization of cargo transportation;
- other wholesale. (Gagarinskii, 2012)

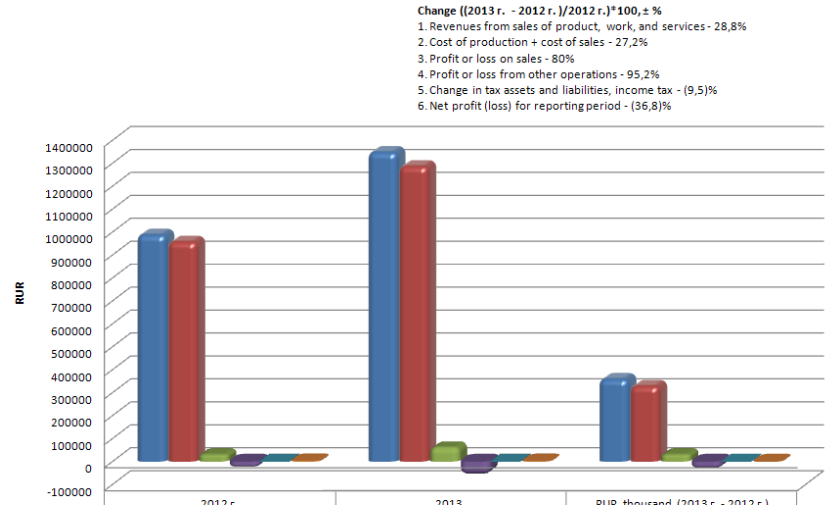
The main factors affecting both the state of the industry as a whole, and the activities of Enterprise 1, Enterprise 2 and Enterprise 3 are:

- smelters' need for raw materials (scrap metal);
- sale of ready products by smelters (rolled steel);
- season.



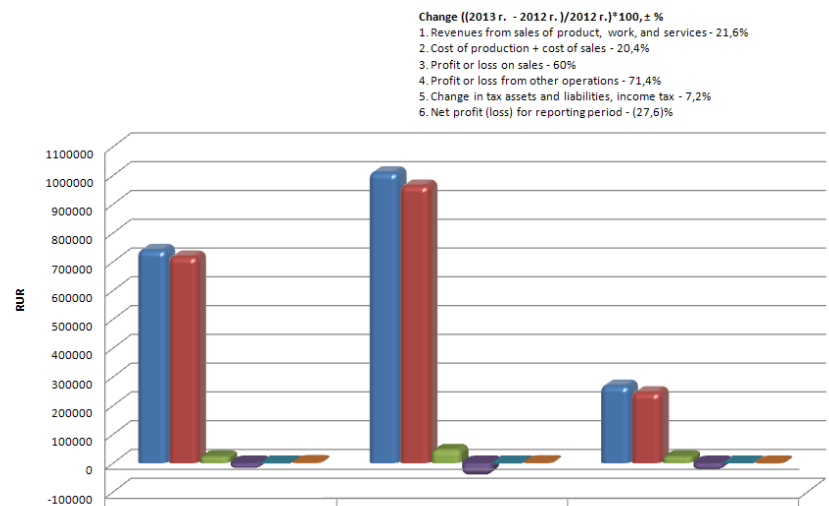
	2012 r.	2013 (year of report)	RUR, thousand (2013 r. - 2012 r.)
1. Revenues from sales of product, work, and services	1235787	1685467	449680
2. Cost of production + cost of sales	1197481	1608844	411363
3. Profit or loss on sales	38306	76623	38317
4. Profit or loss from other operations	-33616	-73737	-40121
5. Change in tax assets and liabilities, income tax	-987	-871	116
6. Net profit (loss) for reporting period	3703	2015	-1688

Figure 1. Analysis of the financial indicators for Enterprise 1 [2]



	2012 r.	2013 (year of report)	RUR, thousand (2013 r. - 2012 r.)
1. Revenues from sales of product, work, and services	988629,6	1348373,6	359744
2. Cost of production + cost of sales	957984,8	1287075,2	329090,4
3. Profit or loss on sales	30644,8	61298,4	30653,6
4. Profit or loss from other operations	-26892,8	-58989,6	-32096,8
5. Change in tax assets and liabilities, income tax	-789,6	-696,8	92,8
6. Net profit (loss) for reporting period	2962,4	1612	-1350,4

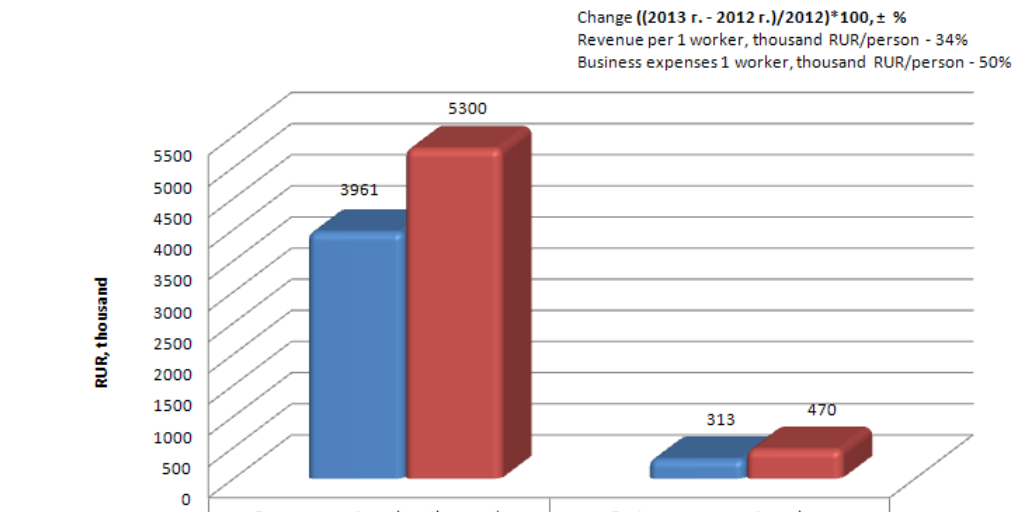
Figure 2. Analysis of the financial indicators for Enterprise 2



	2012 r.	2013 (year of report)	RUR, thousand (2013 r. - 2012 r.)
1. Revenues from sales of product, work, and services	741472,2	1011280,2	269808
2. Cost of production + cost of sales	718488,6	965306,4	246817,8
3. Profit or loss on sales	22983,6	45973,8	22990,2
4. Profit or loss from other operations	-20169,6	-44242,2	-24072,6
5. Change in tax assets and liabilities, income tax	-592,2	-522,6	69,6
6. Net profit (loss) for reporting period	2221,8	1209	-1012,8

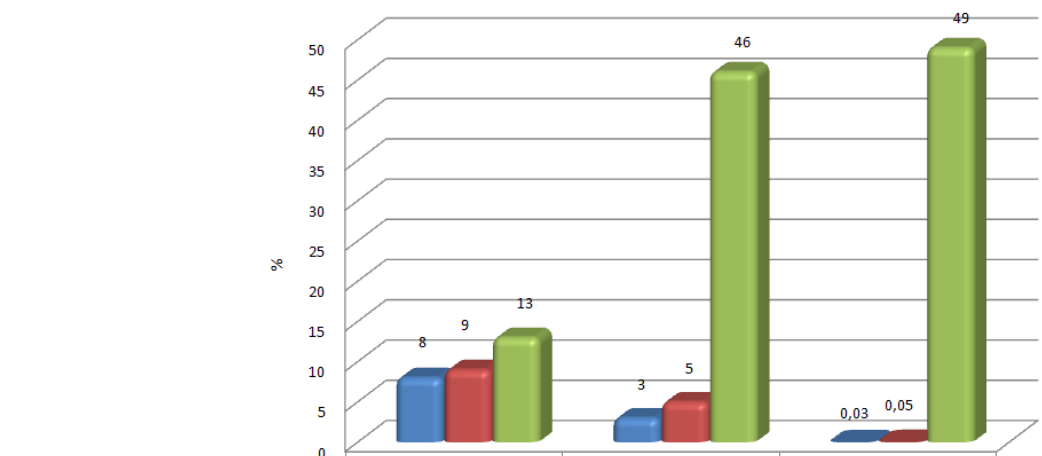
Figure 3. Analysis of the financial indicators for Enterprise 3

Figures 4-9 show technical and economic indicators for enterprises of mechanical engineering.



	Revenue per 1 worker, thousand RUR/person	Business expenses 1 worker, thousand RUR/person
2012 r.	3961	313
2013 r. (year of report)	5300	470

Figure 4. Business performance indicators for Enterprise 1, RUR, thousand



	Business expenses as a percentage of revenue	Sales profitability	Profitability rate
2012 r.	8	3	0,03
2013 r. (year of report)	9	5	0,05
Change ((2013 r. - 2012 r.)/2012)*100, ± %	13	46	49

Figure 5. Business performance indicators for Enterprise 1, %

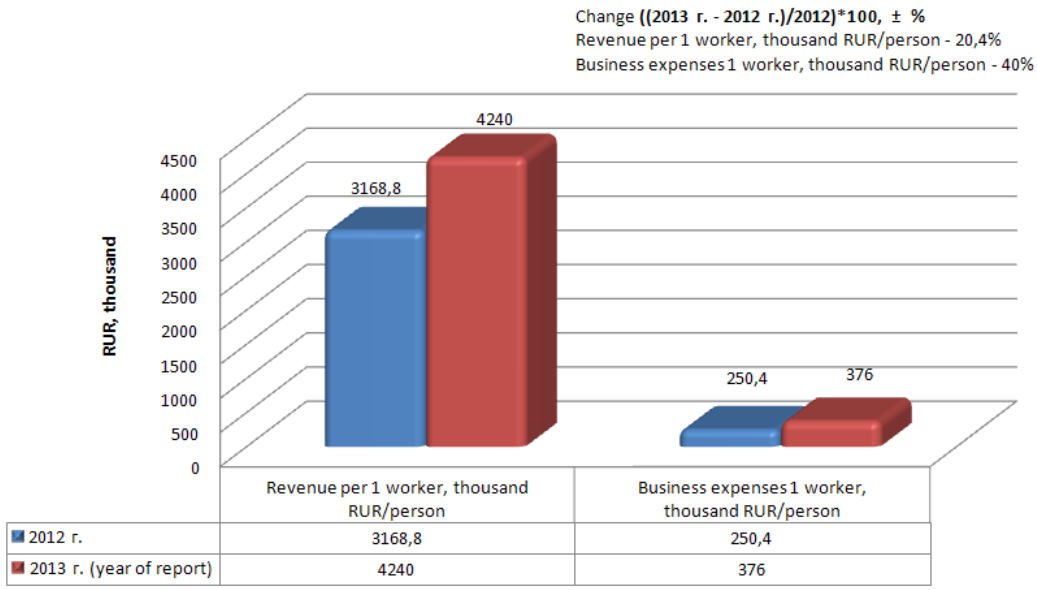


Figure 6. Business performance indicators for Enterprise 2, RUR, thousand

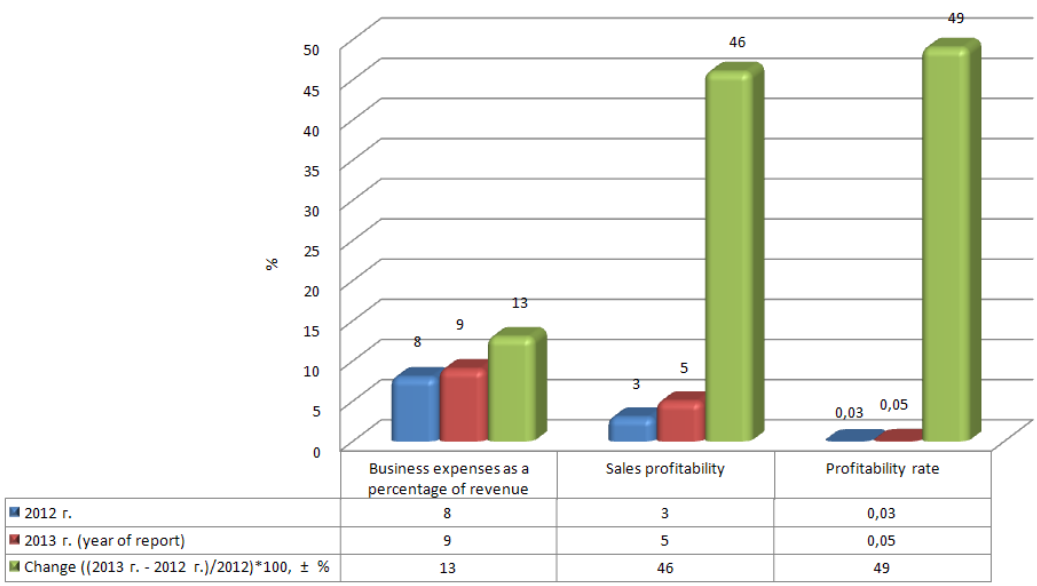


Figure 7. Business performance indicators for Enterprise 2, %

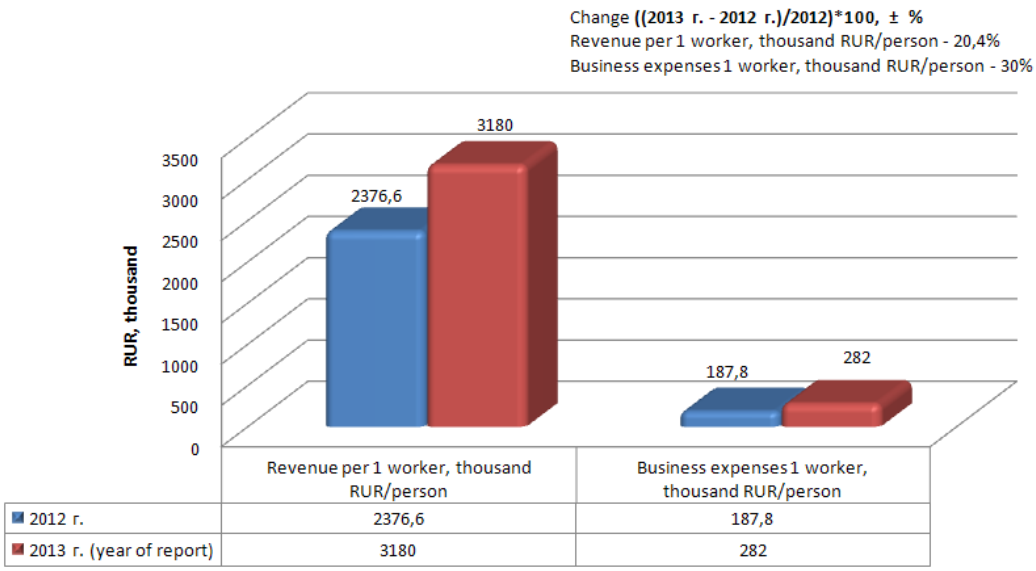


Figure 8. Business performance indicators for Enterprise 3, RUR, thousand

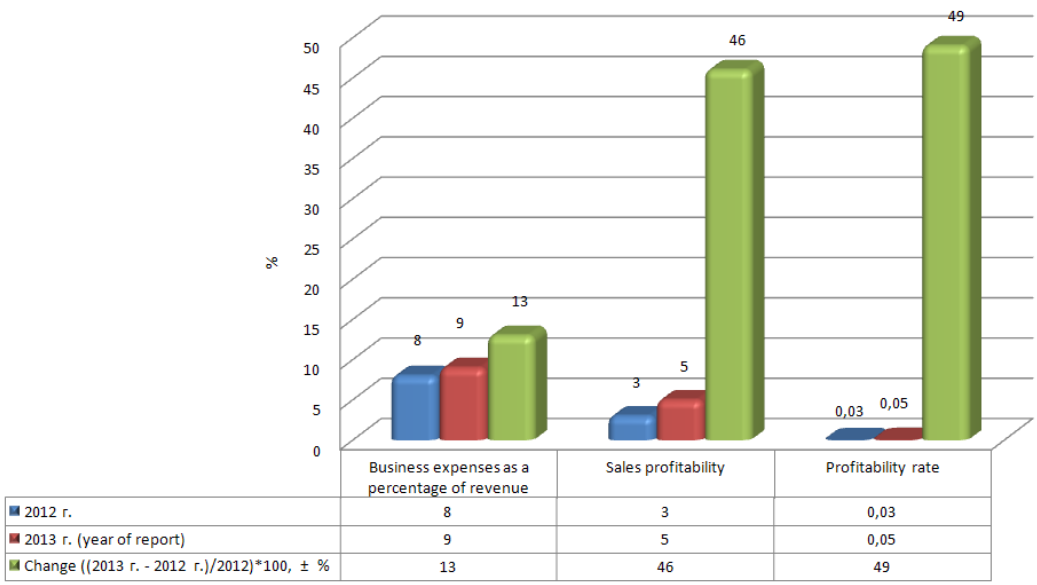


Figure 9. Business performance indicators for Enterprise 3, %

Enterprise 1, as a typical representative of scrap processing enterprises, estimates the general trends for development of the industry as moderately pessimistic as a result of the following events this year:

- lower consumption of scrap iron by smelters by 3,000,000 tons;

- several smelters were put into operation.
- To improve the future competitive edge of their products the enterprises plan to:
- expand the market by finding new customers and introduction new types of scrap (packeted chips) ;
- improve the skills of the personnel.

Following priority business activities of Enterprise 1, Enterprise 2 and Enterprise 3 can be singled out: collecting, storage, processing, and sale of ferrous and non-ferrous metals.

Main achievement of Enterprise 1 in collecting, processing, and sale of ferrous and non-ferrous metals is the following: despite the sales decreased by 17,049 tons compared to the last, the company increased its share in the total shipped volume of the scrap metal in the Samara Region.

Analysis of financial and economic status of Enterprise 1, Enterprise 2, and Enterprise 3 shows stable operation in their market segments (see Figures 1-9).

As it is shown, the revenue per employee in Enterprise 1 for the reporting year increased by 34% and was RUR5,300,000. Business expenses to revenues ratio increased from 8 to 9% in 2013, i.e. by 1% compared to 2012. Business expenses per employee during the year grew by RUR157,000 (50% growth). Shown in Table 1 profitability indicators for 2013 are positive as the company received profit from sales, with positive trend: at the end of 2013 profitability sales was 5%, that is, the indicator increased by 2% due to 100% growth of profit on sales.

Development of incentive system at scrap processing enterprises is primarily due to the improvement of the existing regulations on bonuses for employees of different departments, including the managers of various levels. To improve the wage system and increase the material interest of the unit managers following is done:

- finding a uniform approach to distribution of funds allocated for the material incentive units to the fund of line managers, unit head fund, and bonuses for indicators;
- development of a new procedure for motivation of managers at various levels by introduction of bonuses for meeting the unit work indicators and awarding the bonuses from the unit manager fund;
- defining a new approach to training in general, advanced training, adaptation and wages in these periods, aimed at maintaining the level of wages during training and adaptation, and ensuring gradual increase of wages depending on raising the qualification of the manager;
- establishing a procedure to define and change the coefficients of the managers' work participation, which allows to take into account the achievements and shortcomings in the work of each employee when calculating the incentives or bonuses for a month.

4. Methodology for selection of qualitative and quantitative indicators

Manager performance indicators are the criteria to determine how well the production team or individual employees work to achieve the result. While most managers believe the quantitative indicators are the best, not everything can be measured by numbers. Attempt to quantify absolutely everything sometimes produces meaningless indicators. Good indicators mean they are observable and can be verified by anyone. If using the numbers is not always possible, the words can always be used to define the quality work. (Gagarinskii, 2013)

Choice of indicators system should begin with a list of common technical and economic performance indicators for the organization. (We have included generally accepted

technical and economic indicators of the organization into the system of indicators).

Borrowing and modification are possible ways to create the indicators. It is easier for a particular organization to adapt the indicators already developed by other organizations than to invent new ones. Implementators may refer to indicators developed by another organization, and then borrow and modify those that seem useful.

Indicators are, in fact, the criteria allowing you to know if the norms for quantity, quality, cost, and timing were complied with. There are two types of specific indicators. Quantitative indicators assess the result using the numbers. Quantitative indicator sets the measurement units to monitor. Quality indicators evaluate the result using the appropriate characteristics. Descriptive indicator establishes who will evaluate the work performance and what factors will be evaluated.

The next step in measuring the effectiveness of the team is to set the level of efficiency which you want to be achieved in terms of each indicator you set.

If to compare the indicator to the measurement scale that is used to assesses the results, then standard work efficiency will correspond to the "excellent work" range of values on the scale. Indicator is what you evaluate, and work performance norm is how much you need.

Management business process

Lets divide the indicator system over the business-processes. We will single out the management business process using the example of a smelter:

1) Managing the policy in the field of quality.
2) Planning the development.
3) Analysis of the quality management system (QMS) by management.
4) Improvement of QMS.

Following functions are distinctive to these business processes:

management of the quality indicators, planning of development, marketing management.

Indicators of management business processes:

total sales; gross income of the company; the full cost of production; growth rate of economic added value added; profit; increase in the net asset value of the enterprise; profitability; number of quality management subsystems that meet international standards; other expenses; distribution costs; presence of the key performance indicator system, and continuous adaptation of its indicators to the conditions of external and internal business environment; number of business processes that have been certified to environmental standards. (Andersen, 2007)

5. Method for selection of qualitative and quantitative indicators of the company

Typical enterprises on this issue and economic activity have been chosen by us to analyze the most representative for scientific research.

Indicators to evaluate the results of the managers' work for different management levels were defined by an expert method where the experts were the managers of following industrial enterprises: Enterprise 1, Enterprise 3, and Enterprise 2 (see Figure 10, appendix).

The advantage of this system is the possibility to differentiate the assessment of industrial enterprise managers' work results by management levels, taking into account the complexity of the work during the business processes.

For both the managers of each management and the enterprise as a whole the incentive for work results is calculated on differentiated basis. (Maletič *et al.*, 2012)

6. Conclusion

In the study, the authors performed a comprehensive and in-depth analysis of the socio-economic performance of the Russian industrial enterprises. The analysis revealed the problem associated with the use of the material incentive systems for encouraging the work activity of the managers. It is the lack of correlation between the work results and the size of incentive payments to managers. To solve this problem, the authors developed a system of key performance indicators based on distribution of functions and responsibilities when implementing the key business processes across the management levels. The system allows to evaluate the results of the manager's work and it is implemented in practice within the system for stimulating the work of managers of industrial enterprises.

Implementation of the proposed recommendations contributes to efficiency of the managers' work and, generally, work productivity of the personnel in the industrial enterprises.

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Appendix:
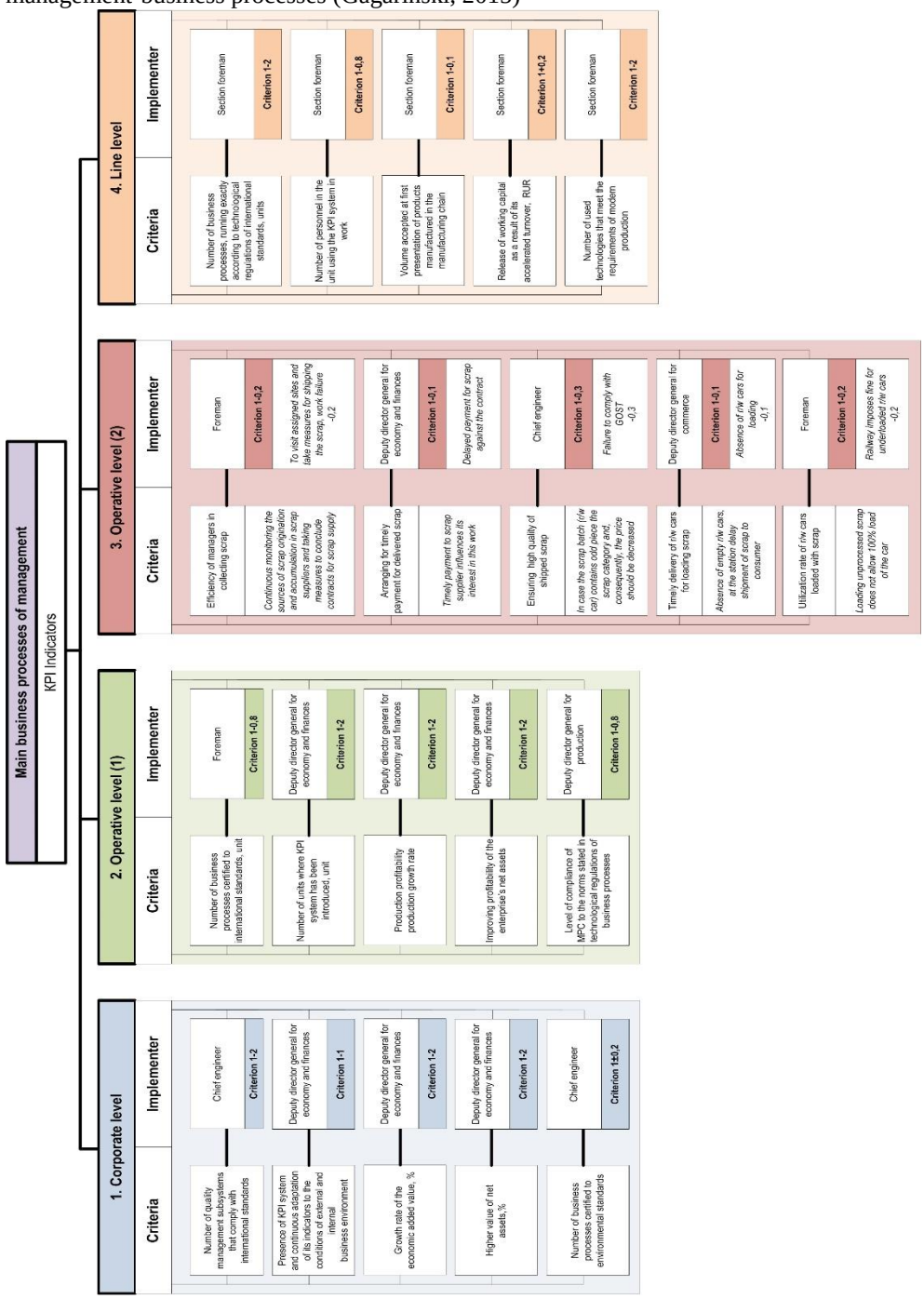
Figure 10. Indicators to evaluate the results of the managers' work in implementation the management business processes (Gagarinski, 2015)