

Methodology of estimation of system efficiency of personnel management on the enterprises of meat processing industry

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Abstract

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Introduction. The article is devoted to the question of control system forming by the personnel of meat processing enterprises, and its clarification structure. Determination of integral index of control system efficiency estimation is offered by the personnel of the enterprise.

Materials and research methods. The next methods are used in the research: systems analysis in the questions of structure forming of control system and its application by personnel in practical activity of the enterprise of meat processing industry; analysis and synthesis, analogy and comparison – in methodology of efficiency system estimation of personnel management.

Results and discussions. The problem of forming the effective system of personnel management is one of the most essential for modern management of the enterprise (or organization), as with scientific and practical side of the research. Taking into account the specific of meat processing enterprises, necessity of control system perfection of personnel of the enterprise. The next subsystems of control system of personnel are offered: informatively-legal, analytical, organizational, motivational and controlling.

For the estimation of control system efficiency of personnel of the enterprise is offer methodology that provides: determination of single indexes that characterize this system; choice of standard value of indexes for comparing with actual indexes; calculation of integral index of this system efficiency.

Conclusions. Offered approach of the improvement of control system allow the personnel of meat processing enterprise do corresponding conclusions for the further planning of labour productivity, search of perfection norms of labour and rational use of labour resources productivity, providing stability of skilled employees, increase of motivational suggestions at development of skilled strategy of the enterprise. Methodology of efficiency estimation of control system of the personnel management on the basis of the most widespread economic indicators differs by availability and simplicity.

Introduction

Strengthening of globalization processes and integration of Ukraine to the world community pull out modern requirements before personnel management that is related with creating new skilled strategies, providing of skilled and intellectual culture safety, informatization.

The problems of methodology and practice of personnel management are investigated in researchers of such scientists, as H. Aguinis [1], M. Armstrong [2], L. Balabanova [3], A. Baron [1], M. Bukovinska [4], W. Cascio [2], M. Foot [5], C. Hook [5], I. Lozinskiy [6], M. Marchington [7], A. Osipova [8], L. Stout [9], J. Stredwick [10], A. Wilkinson [6] and other. Doing justice their scientific work of this range of problems, it is necessary to notice that research of control system efficiency of personnel of the enterprise is continuous process, especially in a competition environment. Therefore, it is necessary to make the research of control system efficiency estimation of the personnel of meat processing enterprises for further innovative development.

Materials and methods

The next methods are used in the research: systems analysis in the questions of structure forming of control system and its application by personnel in practical activity of the enterprise of meat processing industry; analysis and synthesis, analogy and comparison is in methodology of efficiency system estimation of personnel management.

For methodology approbation by the efficiency estimation of personnel management the researchers have selected the activity of Public Joint-stock Company “Kremenchugmiaso” during the period from 2001 till 2015, which is the powerful domestic enterprise, certificated after the standards of ISO, that is complemented to ten of most enterprises of meat processing industry of Ukraine. The total amount of employees on the Public joint stock company “Kremenchugmiaso” is 1740 persons, production capacity about 70 tons of sausage products on twenty-four hours, general area of the enterprise is 14 hectares.

Results and discussions

In modern terms the control system of the personnel of enterprises of meat processing industry must take into account its specific and «weak points»:

- Application of out-of-date and ineffective organizational structures of enterprises (meat-processing plants);
- Low level of personnel qualification and worker’s property accountability for final results;
- Insufficient level of stimulation for workers that engage in development and introduction of innovations on the enterprise;
- Absence of program development of stress management for the workers of the enterprise (especially slaughterhouses);
- Requirement in the certification of enterprises on standards: ISO 9000 «control of quality system»; iso 14000 «system of environment control»; ISO 22000 «system of safety foodstuffs providing»;

- Requirement in introduction of social standards of OHSAS 18000 “system of labour safety control»; iso 26000 “social responsibility guide», SA 8000 «system of social responsibility control», that provide safety concerns and health of workers, bringing up in the staff good attitude for quality and safe labour;
- Presence of heavy and harmful terms of labour, high level of hand labour (especially in abattoir building);
- Insufficient level of enterprises providing of highly skilled workers;
- Complication of establishment of scientifically reasonable norms and actual account of charges of energy resources on unit of concrete type of products at the wide range of products assortment (over 200 names);
- Application of big amount of quantity and production norms on production and setting of labour norms that gives the possibility for their manipulation.

Generalization of theoretical researches of forming the control system of personnel on the enterprise showed that most authors distinguished its next subsystems: analysis and planning of personnel; hiring and recruiting of personnel; personnel motivations; personnel estimations; management of personnel development; labour conditioning; informative providing of personnel control system; development of management organizational structure; legal providing [8, p.185]. For providing effective control system of personnel on the enterprises it is necessary to apply progressive foreign technologies of personnel management which are described in scientific works [1, 2, 5-7, 10]. The next subsystems of control system of personnel on the enterprise are offered:

Subsystem of the informatively-legal providing: study of labour changes and other legislation in the field of personnel management and labour economy; branch positions; labour market tendencies; wage changes, indemnifications, additional charges, bonuses system and others like that. Preparation of normative documents, instructions, positions and others like that are also needed. Information promotion on the web-site of the enterprise about vacancies, news of labour collective, social projects and charity actions are necessary too.

Analytical subsystem: development of skilled politics and skilled strategy; skilled planning; forecasting of personnel requirements; collaboration with organizations that provide staff for the enterprise; reception account and personnel liberation, moving; organization of effective personnel use; forming of skilled reserve; skilled office work and other.

Organizational subsystem: selection and personnel recruitment; realization of interviews, tests, questionnaire for the display of intellectual level, professionalism, communicativeness and other necessary quantities; personnel evaluation, attestation and rotary of personnel; estimation of knowledge level, practical skills, confirmation of mastery and personality responsibility; estimation of executable work and its results; realization of arrangements, sent to the exposure of accordance with the results of activity, qualities and personality potential of worker to the requirements that is pulled out to executable work; improvement of labour norms; tariffing of labour process; creation of safe terms for employees' labour; observance of labour psychophysiology, ergonomics, technical aesthetics; establishment of corporate culture norms and others.

Motivational subsystem: development of the systems of motivation; development of personnel participation forms in incomes and capital of the enterprise; development of arrangements of material and non-material personnel stimulation of; organization of studies and in-plant personnel training; management adaptation of workers; organization of the tutorship system; management professional advancement and employees career, providing

of social workers defence: organization of feed, medical and home service, rest, social and health arrangements, social security; conflicts and stresses management.

Subsystem of controlling: providing of skilled safety; maintenance of high level of social labour relations; control of functional duties implementation in accordance with vacancy instructions; management of conflicts in production; antistress program development; social-psychological diagnostics; work with complaints; management labour discipline.

At market conditions the meat processing enterprises have a right to develop independently their own organizational structure. Modern requires of forming new subdivision is the department of personnel management on large meat processing plants with over 1000 persons (The public joint stock company “Kremenchugmiaso”, LTD «Globino”, LTD meat processing plant “Yuvileinyi” and others) on the basis of combination of functional duties of human department of the resources, department of labour organization and salary; department of social development, labour department; different laboratories and sectors (laboratories of scientific organization of labour and operations management; laboratory of organization and labour psychophysiology; sector of labour rationalization and invention), and also separate specialists (labour economist, labour norms engineer, engineer of personnel training, psychologist, legal adviser).

The tasks of new management personnel service: forming of effective control system and personnel use; development of skilled politics; labour resources management with taking into account the principles of optimization and economy; development of the effective systems of motivation and personnel stimulation; development management and professional advancement, labour career; antistress program development and prevention of conflicts in production and other.

For evaluation of control system efficiency of personnel of the enterprise, is given the methodology that is conducted for the next principles:

Principle of objectivity envisages the unpreconceived analysis of objective law conformities, tendencies and factors that influence on control system forming of personnel of the enterprise;

Principle of sequence envisages the observance of clear sequence of executions at the estimation of control system efficiency of personnel of the enterprise;

Principle of system envisages consideration of control system of personnel as component of open management system of the enterprise. It realizes the account of external and internal factors environment influence on personnel at the acceptance of administrative decisions in relation with forming of control system by personnel of the enterprise;

Principle of scientific character envisages using the estimation of control system efficiency of personnel of the enterprise of new methodical approaches in relation to the improvement of technologies of management of personnel taking into account front-rank scientific experience;

Principle of practical meaningfulness envisages usage of estimation results of control system efficiency of personnel at the acceptance of practical decisions on all levels of management of the enterprise;

Principle of intercommunication provides accounting of present intercommunications and co-operating with other objects of management of control system forming of personnel of the enterprise;

Principle of complexity envisages realization of estimation of control system efficiency of personnel of the enterprise from taking into account its constituents;

Principles of validity and progressiveness envisage the orientation at comparison of indexes on the best front-rank home and foreign experience of the enterprises in the questions of personnel management;

Principle of unity of methodical approaches allows to provide possibility of comparison of indexes values of evaluation of control system efficiency of personnel with the corresponding indexes of meat processing enterprises in dynamics;

Principle of openness of indexes system envisages information about internal and external possibilities of labour decline of products intensiveness, labour increase, search of backlogs of labour norms improvement and rational use of labour resources of enterprise productivity;

Principle of proportion and co-ordination consists of proportion providing and co-ordination of control system efficiency constituents of personnel in the process of its estimation;

Principle of openness in relation to environment envisages the analysis of environment factors influence with the aim of practical realization of external possibilities and neutralization or influence minimization of negative factors at control system forming of personnel of the enterprise.

One of the tasks of new management service of personnel must become the realization of estimation of control system efficiency of personnel of the enterprise of current period. This estimation allows to get the determination results and analysis of quality and quantitative descriptions of object research, is the main part for aims formulation, decisions development and choice of the best from the existent variants of their realization.

Important and inalienable element of estimation of any economic phenomenon in general and efficiency of control system in particular, there are the choice and explanation of the corresponding indexes system, as no economic system can be characterized only by one effect (by a result) even on condition that this effect is the most essential in this phenomenon forming. Without regard to numerous researches of scientists in relation to determination of control system efficiency of personnel, the generalized system of indexes of its estimation is absent.

The estimation of control system efficiency of personnel of the enterprise is suggested to conduct on a chart on Figure 1.

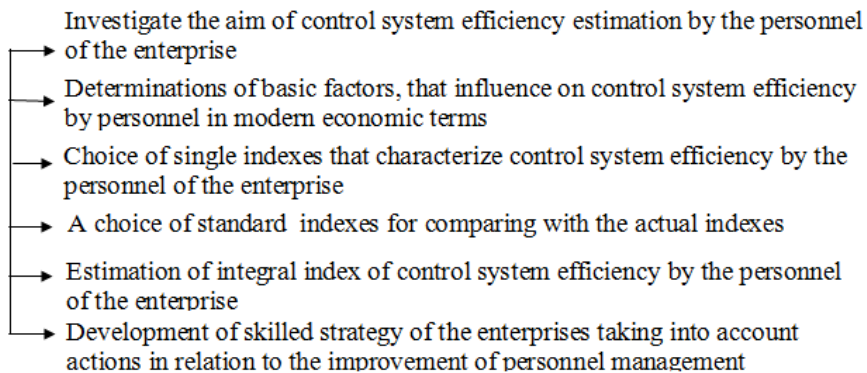


Figure 1. Chart of realization of of control system efficiency of personnel estimation by the of the enterprise

Calculation of indexes that characterize control system efficiency of personnel of the enterprise is presented in Table 1.

Table 1
Indexes of control system efficiency of personnel of the enterprise

N	Name of indexes	Standard value
1	Rates of increase of employee quantity (R em.q)	Maximal value
2	Rates of increase of products making for one employee (R p.m.)	Maximal value
3	Rates of increase of charges on labour remuneration in complete charges (R l.r.)	Maximal value
4	Rates of increase of labour remuneration fund (R l.r.f.)	Maximal value
5	Rates of increase of labour productivity (R l.p.)	Maximal value
6	Rates of increase of administrative charges per employee in administrative level (R admin. level)	Minimum value

The choice of standard indexes for comparing with the actual indexes of the enterprise. The standard values of indexes it is possible to accept:

1. The best values of indexes for the enterprise at elector during 5,10, 15, 20 years;
2. The best values of indexes at elector during 5, 10, 15, 20 years, data from some of investigated enterprises;
3. The best values of sub-branch level, that is determined by the specialists of the National association of producers of meat and meat sub-product of Ukraine «Ukrmiaso, which has 70 large and middle enterprises.

The estimation of indexes in accordance with a standard value (max or min) for constituents is determined by formula:

$$P1 \text{ min} = R \text{ em.q. standard} / R \text{ em.q.} \quad (1)$$

or

$$P2 \text{ max} = T \text{ admin. level} / T \text{ admin. level, standard} \quad (2)$$

The next stage is a calculation of integral index of control system efficiency of personnel of the enterprise for years and comparing them with other enterprises.

The integral index of control system efficiency of personnel (IlofCSE) is suggested to determine by formula:

$$(IlofCSE) = \sqrt[4]{R \text{ em.q.} \times R \text{ p.m.} \times R \text{ l.r.} \times R \text{ l.r.f.} \times R \text{ l.p.} \times R \text{ admin.level.}} \quad (3)$$

where R of em. q. are rates employee quantity; R of p. m. are rates of increase of products making for one employee; R of l.r. are rates of increase of charges on labour remuneration in complete charges; R of l. r. f. are rates of increase of labour remuneration fund; R of l. p. are rates of increase of labour productivity; R admin.level are rates of increase of administrative charges per employee in administrative level.

Approbation of methodology of control system efficiency estimation of personnel of the enterprise is carried out from data of Public joint-stock company «Kremenchugmiaso» and is presented in table. 2.

Table 2
Determination of standard values of control system efficiency estimation of personnel of public joint-stock company «Kremenchugmiaso»

Years	Indexes of control system efficiency of personnel					
	R em.q.	R p.m.	R l.r.	R l.r.f.	R l.p.	R admin. level
2001	1,05	1,04	1,13	1,43	1,01	1,03
2002	1,14	1,23	1,34	1,55	1,15	2,29
2003	1,39	0,93	1,11	1,69	1,80	1,96
2004	1,0	0,70	1,02	1,28	1,28	0,59
2005	1,0	0,91	1,02	1,45	1,02	1,2
2006	1,28	0,74	0,97	1,60	0,91	1,35
2007	1,07	0,98	1,65	1,38	1,11	0,88
2008	1,13	0,88	0,92	1,29	1,22	0,62
2009	0,94	1,08	0,87	0,92	1,15	1,41
2010	1,05	1,17	0,92	1,24	1,23	0,79
2011	1,01	1,06	1,08	1,22	1,11	1,17
2012	0,97	1,39	0,92	1,04	1,06	1,06
2013	0,99	0,79	1,12	1,09	1,03	1,23
2014	0,98	0,92	0,90	1,05	1,05	1,39
2015	0,90	0,82	1,12	0,86	1,09	0,89
Standard	1,39 max	1,39 max	1,65 max	1,69 max	1,80 max	0,59 min

***It is made by enterprise's accounting

Table 3
Comparison of actual indexes with standard values of control system efficiency estimation of personnel of public joint-stock company «Kremenchugmiaso»

Years	Indexes of control system efficiency of personnel					
	R em.q.	R p.m.	R l.r.	R l.r.f.	R l.p.	R admin. level
2001	0,75	0,74	0,68	0,85	0,56	0,57
2002	0,82	0,88	0,81	0,92	0,64	0,25
2003	1,0	0,66	0,67	1,00	1,00	0,30
2004	0,71	0,50	0,61	0,76	0,71	1,0
2005	0,71	0,65	0,61	0,86	0,57	0,49
2006	0,92	0,53	0,58	0,95	0,51	0,43
2007	0,76	0,70	1,0	0,82	0,62	0,67
2008	0,81	0,63	0,55	0,76	0,68	0,95
2009	0,67	0,77	0,52	0,54	0,64	0,41
2010	0,75	0,84	0,55	0,73	0,68	0,74
2011	0,72	0,76	0,65	0,72	0,62	0,50
2012	0,69	1,0	0,55	0,62	0,59	0,55
2013	0,71	0,56	0,67	0,64	0,57	0,47
2014	0,70	0,66	0,54	0,62	0,58	0,42
2015	0,64	0,58	0,67	0,51	0,61	0,66

The analysis of actual data testifies that during 2001-2015 period, the maximal value: rates of increase of employee quantity are 1,39; rates of increase of products making for one employee are 1,39; rates of increase of charges on labour remuneration in complete charges are 1,65; rates of increase of labour remuneration fund are 1,69; rates of increase of labour productivity are 1,80; minimum value of rates of increase of administrative charges per employee in administrative level are 0,59.

A calculation of integral index of control system efficiency of personnel of the enterprise public joint-stock company “Kremenchugmiaso” is given in Table 4.

Table 4
An integral index of control system efficiency of personnel of public joint-stock company «Kremenchugmiaso” during 2001-2015

Years	Integral index
2001	0,684
2002	0,664
2003	0,714
2004	0,699
2005	0,638
2006	0,624
2007	0,752
2008	0,719
2009	0,580
2010	0,709
2011	0,655
2012	0,651
2013	0,598
2014	0,652
2015	0,609

The conducted estimation of control system efficiency of personnel of the enterprises (on the basis of determination of standard values of enterprise) testifies that integral index is almost in identical limits and has small changes during 15 years: minimum value is 0,580 in 2009 and maximal value is 0,752 in 2007.

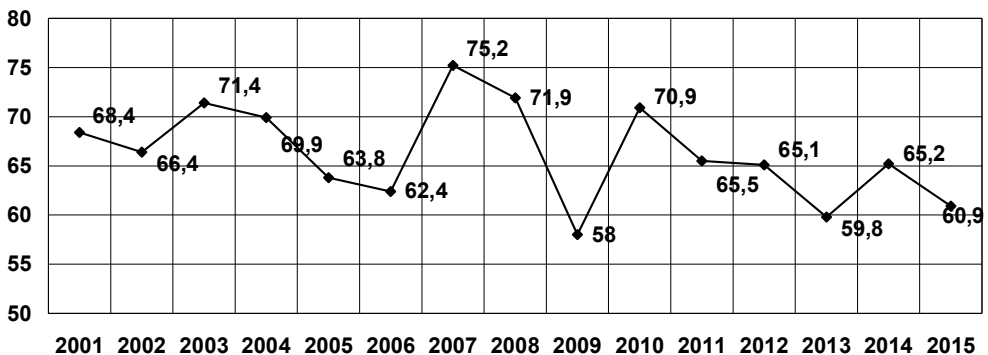


Figure 2. Reflection of integral index change of control system efficiency of personnel during 2001-2015, %

At the same time methodology of estimation of control system efficiency of personnel that contains the quantitative values of indexes (from 0 to 1) only, it is expedient to complement with interpretation of quality values by corresponding levels (for example, Hurrington's scale: 1,00-0,80 – "very well", 0,80-0,63 – "well", 0,63-0,37 – "satisfactory", 0,37-0,20 – "bad", 0,20-0,00 – "very bad").

Regarding from the got integral index values of control system personnel efficiency, data is got into two fields of Hurrington's scale: 0,80-0,63 – «well», 0,63-0,37 – «satisfactorily» (table 5).

An integral index of control system efficiency of personnel during 2001-2015 after Hurrington's scale was in limits «well» for 10 years and "satisfactory" for 4 years, that is not a good result for Public joint stock company "Kremenchugmiaso".

Also large data capacity during 2001-2015 enables economic forecasting of control system efficiency of personnel.

Table 5

Distribution of integral index after Hurrington's scale

0,80–0,63 – «satisfactory»		0,63–0,37–«unsatisfactory»	
Years	<i>Integral index</i>	Years	Integral index
2001	0,684	2006	0,624
2002	0,664	2009	0,580
2003	0,714	2013	0,598
2004	0,699	2015	0,609
2007	0,752		
2008	0,719		
2010	0,709		
2011	0,655		
2012	0,651		
2014	0,652		

Methodology will allow to estimate the control system efficiency of personnel and make conclusions for further planning of arrangements in relation to the decline of labour production intensiveness, increase of labour productivity, search of backlogs of labour norms improvement and rational use of labour resources of the enterprise productivity during the development of staff-skilled strategy of the enterprise.

Conclusions

Forming of effective control system and the use of personnel of meat processing enterprises that provides and guarantees high quality of personnel, its level of professionalism and work is one of maintenance requirements of the enterprise's competitiveness. As research testifies, today there is a requirement in improvement of organizational structure of the enterprises due to the input of new service of personnel on large meat processing plants, that will develop effective skilled politics and create terms for employees' productive activity on the basis of social partnership.

Offered methodology of estimation of control system efficiency of personnel, that is approved on data of public joint stock company “Kremenchugmiaso”, helps the personnel management department to find «weak points» in this system, and develop the arrangements in relation to its improvement.

Further development of control system of the personnel of meat processing enterprise is not possible without introduction of new technologies of management and the uses of workers, that decide different social labour questions by means of software, application of the collective thinking and other creative approaches.

References

1. Michael Armstrong, Angela Baron (2007), *Performance Management. The New Realities (Developing Practice)*, Hippo Publishing Ltd.
2. Herman Aguinis, Wayne Cascio (2013), *Applied Psychology in Human Resource Management*, Pearson New International Edition.
3. Balabanova L., Sardak O. (2010), *Human Resource Management*, Center uchbovoi literatury, Donetsk.
4. Bukovinska M. (2013), *Human Resource Management*, Kondor, Kyiv
5. Caroline Hook, Margaret Foot (2011), *Introducing Human Resource Management*, Financial Times Prentice Hall.
6. Mick Marchington, Adrian Wilkinson (2005), *Human Resource Management at Work*, People Management and Development, the United Kingdom, London.
7. Larry Stout (2009), *Human Resource Management*, *Dobra knyga*, Kyiv.
8. Lozinskiy I., Eliseeva L. (2012), Theoretical basis of hr management system at an enterprise, *The economy and regions*, 3, pp. 184–188.
9. Osipova A. (2012), Analysis of the theoretical foundations of effective personnel management system, *Visnyk Khmelnytsky National University. Economic science*, 6, pp. 45–52.
10. John Stredwick (2005), *Introduction to Human Resource Management*, Butterworth-Heinemann, United Kingdom, Abingdon.
11. Lepak, D. P., Liao, H., Chung, Y., Harden, E. E. (2006), A conceptual review of human resource management systems in strategic human resource management research, *Research in personnel and human resources management*, Emerald Group Publishing Limited, pp. 217–271.