

INNOVATIVE METHODOLOGIES FOR ESTIMATING THE PERSONNEL OF AGRICULTURAL ENTERPRISES IN UKRAINE

Valentyna YAKUBIV¹, Myroslava POLIUK²

¹"Vasyl Stefanyk" Precarpathian National University, 57 Shevchenko str., Ivano-Frankivsk, Ukraine, Phone/Fax:+380965860411; E-mail: yakubiv.valentyna@gmail.com

²Lviv Trade and Economic University, 10, Tugan Baranovsky str., Lviv, Ukraine, 79005, Phone/Fax:+380673977346; Email: m.poliuk@ukr.net

Corresponding author: yakubiv.valentyna@gmail.com

Abstract

Developing an effective staff assessment system is crucial for businesses. Labor effectiveness influences on the results of enterprise activity. It is possible to improve labor effectiveness by introducing system of assessment and motivation of employees. Modern practices in assessing and motivating the staff of agricultural enterprises that are used in the world are rapidly developing. However, the peculiarities of functioning of developing enterprises and general economic processes do not allow to use existing best practices for agricultural enterprises. Possibilities of introducing innovative methods for personnel assessment that are adapted for modern agricultural enterprises are still not fully researched. On the basis of comparison of personnel management systems according to American, European and Japanese approaches, the peculiarities of the management system are determined by the Ukrainian approach. The complex system of personnel assessment for agricultural enterprises is substantiated in the form of a matrix. This system takes into account two descriptive criteria: periodicity (systematic and final assessment) and on object of assessment (current activity and trends of employee development). The proposed system of personnel assessment based on the KPI method has been shown in details, as well as the criteria of evaluation and indicators by the KPI method have been substantiated. The developed system for the personnel assessing of agricultural enterprises is relevant for the specifics of the activity of farms, and allows assessing the current activity and trends of employees' development in the context of systematic and final evaluations.

Key words: *personnel assessment, labor effectiveness, agricultural enterprises, system of motivation; management*

INTRODUCTION

Active changes in the social and economic formations, entry of foreign investors into the Ukrainian market, and emigration processes result in rapid transformations of the labor relations organization at the enterprises of our country. During the last years, the personnel management has been changing faster than the scientific approaches that describe this process. The modern methods of the personnel management, the new types of relationships in a team, paradigms of the personnel motivation and attitude towards the work process and result emerge.

At the same time, it should be noted that the object of this research is the agricultural enterprises of Ukraine (as an example of a emerging market), which are somewhat lagging behind in the pace of development in comparison with the business structures of

other industry branches of the country. The outdated methods of the personnel management prevail on the research sites.

The topical issue for today is a practically absence of personnel assessment and motivation practices at agricultural enterprises. Insufficient attention is paid to the problems of personnel development and recreation. This leads to a certain imbalance in the organization of an efficient personnel management system in the agricultural sector. Modern practices in assessing and motivating the staff of agricultural enterprises that are used in the world are rapidly developing. However, the peculiarities of functioning of Ukrainian enterprises and general economic processes in Ukraine do not allow the use of existing best practices for agricultural enterprises. Therefore, the purpose of this study is to develop an innovative methodology for assessing personnel at

agricultural enterprises, taking into account the peculiarities of their activities in modern conditions for developing countries (on the example of Ukraine). The practice of countries that have recently joined the European Union [5], [3] shows that their level of agricultural development is growing. Therefore, for Ukraine, which is at the stage of European integration, it is important to increase the level of organization of activity of agricultural enterprises, including the personnel management system.

An analysis of the results of scientific research on the issues of developing an optimal system for staff assessment showed that there are three main approaches: American, Japanese and European.

Some scholars believe that it is worthwhile to allocate only two basic scientific approaches: American and Japanese: Culpan, R., Kucukemiroglu, O. [9], Anderson, R. V. [1], Yooyanyong, P., & Muenjohn, N. [29].

Proponents of the Japanese management model believe that the basis of an effective system of personnel assessment is the assessment of the results of continuous improvement of the work team team: Hayakama, N., Okachi, M., & Kalbermatten, P. [6], Fields, G., Katahira, H., & Wind, J. [11], Clarry, J. [7], Hentschel, B., & Haghirian, P. [19], Arthur M. [2].

Proponents of the American management system, believe that the most important thing in ensuring a rational system for staff assessment is to take into account an individual approach to the analysis of the

results of work and self-assessment of employees: Grayson, D. [13], Haghirian, P. [16], Yakokka, L. [26], Kalleberg, A., Reskin, B., Hudson, K. [20].

A similar approach to American is the European approach, whose supporters: Weihrich and Koontz [25], Luthans F, Patrick RR, Luthans B.C. [21], Zhu, Y.-Q., Gardner, D.G, Chen, H.-G. [30], Crespo N., Simoes N., Pinto J.-C. [8], Green, F., McIntosh, S. [15], Gannon, B., Plasman, R., Rycx, F., Tojerow, I. [12], Hauff, S., Kirchner, S. [17] believe that an individual approach to the analysis of the results of work is important in assessing staff, but, unlike the previous important role, control over such results is given.

Based on the analysis of existing management models, we conclude that it is not impossible for Ukrainian enterprises to apply one of them, since there are significant differences in personnel management and employee values. Modern Ukrainian scientists are trying to explore the peculiarities of building a system of personnel management, namely: Oksentyuk, A., Oksentyuk, R. Oksentyuk. B. [24], Yakubiv, V., Horohotska, N., Yakubiv, R. [27], K. Melnyk [22].

On the basis of generalization of various scientific approaches, as well as our own researches, we have substantiated the main distinctive differences between American, Japanese, European and Ukrainian (as an example of a emerging market) concepts of the personnel management in the context of personnel assessment and motivation (Table 1).

Table 1. Characteristic differences in the organization of the personnel assessment and motivation according to the American, Japanese, European and Ukrainian (an example of a emerging market) approaches

American management system	Japanese management system	European management system	Ukrainian (an example of a emerging market) management system
Assessment and motivation object			
An individual employee with his personal and professional characteristics	Team of employees	An individual employee with his professional characteristics and abilities	Labor collective focused on the professional and moral characteristics of the employees
Purpose of the assessment and motivation system			
Enterprise profit maximization, adequate individual assessment of each employee's contribution into the total result	Improvement and harmonization of the social and labor relations system in the organization	Enterprise profit maximization, creating adequate working conditions for the employees	Enterprise profit maximization, costs optimization
Personnel assessment and motivation principles			
According to the results of the team work, work experience	According to the individual indicators of the employee's work	According to the individual indicators of the employee's work	According to the results of the team work, level of tasks performance

Source: own research.

Data in Table 1 indicate a gradual change in the personnel management system in Ukraine (as an example of a emerging market) through adaptation of the European concept. However, these processes are more active in IT, finance, consulting, and media industry. These processes are barely noticeable in such industries as agriculture, woodworking and heavy industry. Therefore, the researching processes in the "backward" sectors require urgent improvement.

Various scientists actively study issues of developing the latest methods for the personnel assessment at the agricultural enterprises. There are various scientific approaches to an effective assessment system development. Thus, Zhu, Y.-Q., Gardner, D.G, Chen, H.-G. [30] propose similar approach with the use of a complex of various methods for the employee's performance assessment.

Gough, Harrison G. [14], Borghans, L., Duckworth, A., Heckman, J., & Wter Weel, B. [4] emphasize the necessity to apply this testing method as one of the most appropriate methods for the employee assessment.

Clark, A. [6], Demoussis, M., Giannakopoulos, N. [10], Mumford, K., Smith, P. [23] believe that for a comprehensive assessment of staff it is expedient to apply different methods of evaluation simultaneously, in particular on the basis of a balanced system of indicators.

Melnyk K. [22], Yakubiv, V., Horohotska, N., Yakubiv, R. [27], Yakubiv, V., Hurmak, N. [28] believe that the criteria for diversification of the activities and professional skills of employees should be taken into account in the process of motivation of employees at the Ukrainian enterprises.

MATERIALS AND METHODS

In the process of developing an optimum personnel assessment system for the agricultural enterprises the following empirical and specific methods were used:

(a) sociological survey — in the process of expert assessment of the effectiveness of various assessment methods and possibility of

their implementation at the agricultural enterprises, as well as in the formation of criteria to develop the assessment scale for the employees' development trends;

(b) comparison, grouping and generalization — in the process of analysis and generalization of existing scientific approaches to the personnel assessment at different enterprises;

(c) abstraction and modeling — in the process of developing a comprehensive personnel assessment system;

(d) calculation and construction — in the process of developing criteria introduced into the personnel assessment system for the agricultural enterprises.

To determine the prospects of the personnel assessment system for the agricultural enterprises in Ukraine, we have conducted a sociological survey on the expert evaluation of the effectiveness of various assessment methods in practice and possibility of their implementation at the agricultural enterprises. 184 respondents, 85% of whom are practicing managers of various enterprises, scientists engaged in research in the field of economics and management at the agricultural enterprises and graduates of the "Management" specialty, that is, the experts who have basic knowledge in the issue under study, took part in this expert survey.

The results of a sociological survey on the basis of an expert evaluation of the efficiency of certain personnel assessment methods at the modern agricultural enterprises are shown in Fig. 1.

The results of a sociological survey on the evaluation of the efficiency of various personnel assessment methods at the Ukrainian enterprises showed that the most effective methods are (in descending order from the most to the least effective ones): (i) assessment center method; (ii) 360° method; (iii) performance management method; (4) method of business games; (v) control method for goals.

In the process of a sociological survey on the feasibility of application of these personal assessment methods at the agricultural enterprises in Ukraine, it has been established that the same respondents consider that the

most effective methods for these enterprises, in descending order from the most to the least effective ones, are the ones which are presented in Fig. 2.

It is about: (i) performance management method; (2)normative method; (3)control method for goals; (4)assessment center method; (v) method of the manager standard estimates.

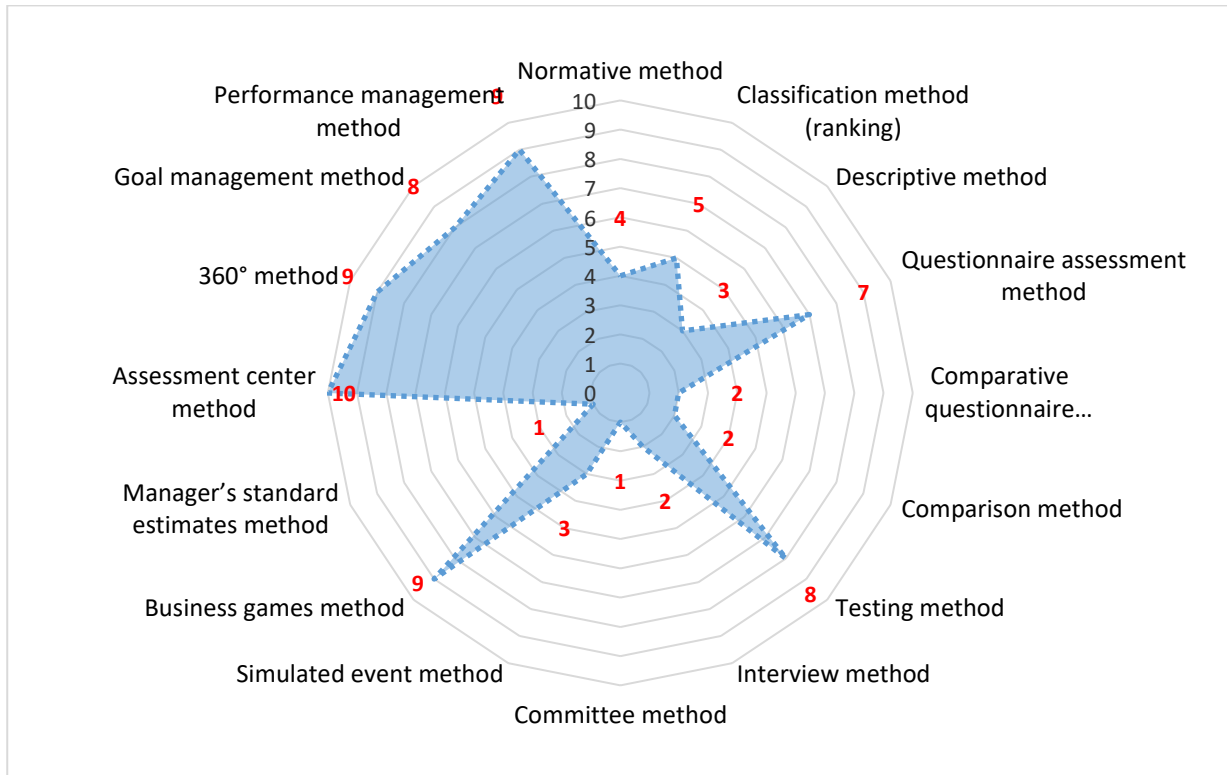


Fig. 1. Results of a sociological survey of the efficiency of various personnel assessment methods at the agricultural enterprises in Ukraine

Source: author's research based on the sociological survey results

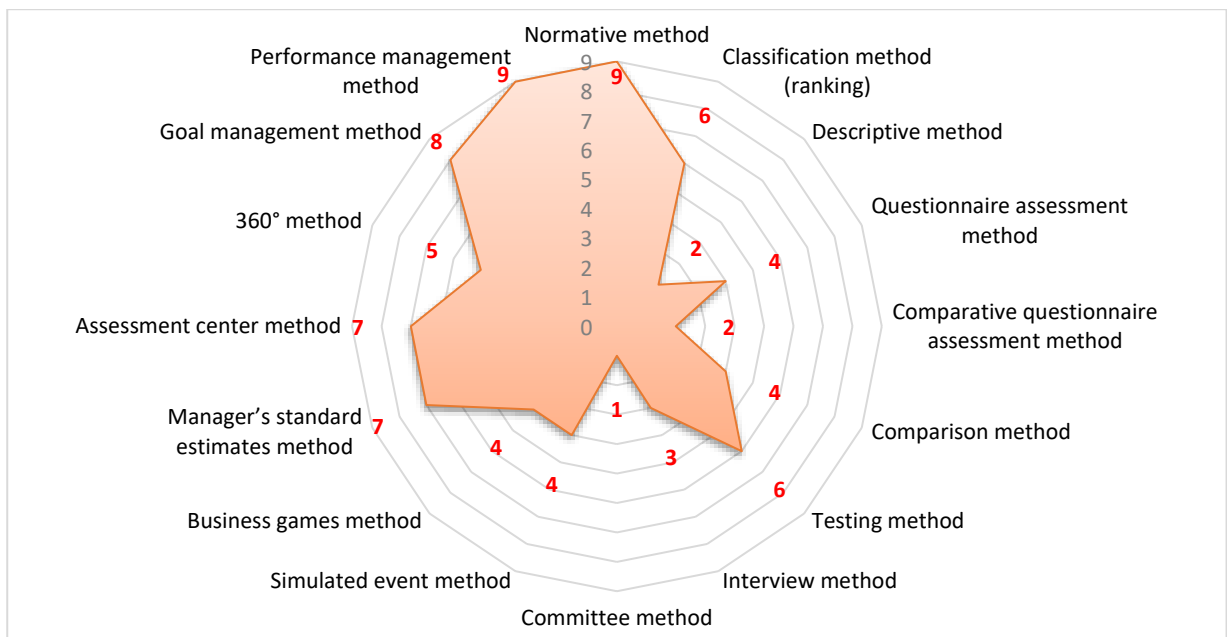


Fig. 2. Results of the sociological survey on the possibility of implementation of various personnel assessment methods at the agricultural enterprises in Ukraine

Source: author's research based on the sociological survey results

Developing an effective system for the personnel assessment and motivation system in the organizational and methodological aspects. On the one hand, the introduction of a powerful personnel motivation system brings good results, as a rule. However, on the other hand, it is important not only to increase labor productivity, but also effectiveness of the motivation and assessment system for the enterprise owner. That is correlation between the results from the introduction of an innovative personnel assessment and motivation system and cost of organizing such work.

RESULTS AND DISCUSSIONS

In this scientific survey, under an effective personnel assessment and motivation system at the agricultural enterprises, we understand such a system which meets two conditions:

- (i) it has optimal conceptual and procedural organization;
- (ii) it is optimal in terms of the expense-income ratio, that is, the effectiveness of the implemented measures.

An important condition for the effectiveness of our system is its optimality in terms of the expense-income ratio, that is, effectiveness of the implemented measures. At the same time, we consider that an effective system is a set of assessment elements and motivation methods for different employees, provided that the following conditions are met (1):

$$\left\{ \begin{array}{l} \Delta LPL > \Delta AMC \\ \Delta NP > \Delta AMC, \end{array} \right\} \quad (1)$$

where ΔLPL is a changing in labor productivity level of the employees;

ΔNP is a changing in net profit of an enterprise;

ΔAMC is a changing in the cost of the personnel assessment and motivation system functioning.

The basis of our effective methodology for the personnel assessment is two classification criteria: frequency and assessment objects. Thus, the conceptual framework for the development of an effective personnel assessment for the agricultural enterprises is shown in Fig. 3.

Matrix on Fig 3. shows that we consider it necessary to introduce such a personnel assessment system at the agricultural enterprises, which will include an analysis of the efficiency of the employee's work under 4 criteria:

- systematic assessment of work;
- final assessment of work;
- assessment of the employee's current activities;
- assessment of the employee's development trends.

Our assessment system is complex and multifaceted and provides a systematic and comprehensive assessment of various employees. It can be used for the most of typical medium and large agricultural enterprises. For the small (farmer) enterprises, it is appropriate to apply a significantly simplified method, that is, the individual elements of our methodology, depending on the needs arising in the process of the personnel management.

	<i>Systematic assessment of activities</i>	<i>Final assessment of activities</i>
<i>Assessment of the employee current activities</i>	<i>Quadrant 1</i> KPI _i	<i>Quadrant 2</i> $\sum_{i=1}^n KPI_i$ 360° method
<i>Assessment of the employee's development trends</i>	<i>Quadrant 3</i> Assessment scale (once every 3 months)	<i>Quadrant 4</i> Comprehensive assessment scale (once at the end of the year)

PERSONNEL COMPREHENSIVE ASSESSMENT

Fig. 3. Conceptual principles for the development of an effective personnel assessment system at the agricultural enterprises in Ukraine
 Source: own research

KPI_i – a key indicator of the estimation of the corresponding parameter of a personnel assessment system.

An important feature of such a system is the need to develop different assessment systems for the different categories of employees. For this purpose, we have divided the employees of all agricultural enterprises into several groups:

Group I — administrative employees (key managers). These include enterprise general director, deputies, chief specialists (chief accountant, chief engineer, financial director), i.e. those managers whose motivational payments will depend on the final enterprise results;

Group II — managers and employees of the productive work categories. These include sales managers and employees of the sales and marketing department.

Group III — managers and employees of other categories of administrative work. These include managers and employees of the accounting, planning and analytics department, personnel management department and other administrative personnel, as well as managers of the production divisions.

Group IV — employees of the production units, i.e. workers.

We have developed an innovative method to assess the personnel of the agricultural

enterprises which implies that the following methods of the personnel assessment will be used for categories I, II and III:

(1) for systematic assessment:

-assessment of current employees' activities will be carried out on the basis of the KPI method;

-assessment of the employee development trends will be carried out on the basis of a comprehensive assessment scale, which includes 3 methods: questionnaire assessment, assessment based on management according to goals and assessment on the basis of performance management;

(2) for the final assessment:

-assessment of the current employees' activities will be carried out by summing up the results using the KPI and 360° method;

-assessment of the employee development trends will be carried out on the basis of a comprehensive assessment scale (per year), which includes 3 methods: questionnaire assessment, assessment based on management according to goals and assessment on the basis of performance management.

Conceptual approaches to the KPI method application to assess the current activities of the agricultural enterprises' employees. The detailed methods of KPI application in the work of agricultural enterprises according to the established 4 groups of workers are given in Table 2.

Table 2. Criteria and indicators of work assessment of employees of different categories at the agricultural enterprises according to the KPI method

Group of employees	KPI general characteristics	KPI indicators	KPI blocking indicators
Group I	KPI indicators should be based on the main performance indicators of the enterprise as a whole	1) net profit; 2) profitability level of activities; 3) attracting new investments; 4) net present value of investments	1) lack of profit in the reporting period; 2) low profitability level of activities (threshold level is 10%)
Group II	KPI indicators should be based on indicators related to market share and sales volumes	1) share of products on the market; 2) sales volumes; 3) number of new regular customers; 4) number of new developed markets	Decline of sales volumes in comparison with the same period last year
Group III	KPI indicators should be based on an assessment of the level of task performance set for the employee and his performance level	Specific indicators for different managers and employees, depending on type of their activities	Percentage of achievement of the goals set for the employee is <90%
Group IV	KPI indicators should be based on an assessment of the performance level of the task (norm) set for the employee	Planning norms of the volumes of work	Percentage of fulfillment of the planned norms is < 100 %

Source: own research.

Table 2 shows that not only the control results of work, but also the so-called "blocking" indicators are the basis to the personnel assessment according to the KPI system. The purpose of such indicators is blocking of the KPI system (concerning bonus accrual and payments) in case of failure to fulfill the threshold criterion results of work. In other words, if there is a certain blocking indicator in the reporting period, the employee does not receive bonuses at all. This is an important motivating factor to maintain a normal level of the employee's performance.

The essence of the final KPI (2) is that the KPI average level per year is determined by the results of the year:

$$KPI_f = \sum_{i=1}^n KPI_{if} / 12, \quad (2)$$

where KPI – is the final assessment of an employee according to the KPI,
n – is the number of months in the reporting period, i.e. 12.

Decisions on motivation based on the annual premium fund are made on the basis of such final assessment of the employee. Taking into account the fact that many agricultural enterprises (especially in the crop field) have almost no current results (revenue from product sales) during the year, application of the final KPI may be the only rational decision, that is, without KPI calculation in the separate reporting periods.

CONCLUSIONS

A comprehensive system for assessing the personnel at the agricultural enterprises has been developed on the basis of expert survey and own developments. This system is effective in terms of the income and expenses and its aim is to provide the possibility of applying a rational and effective system for the employee's motivation. Compilation of the most effective methods is in the basis of the developed system for the personnel assessment at the agricultural enterprises, in particular: KPI, 360° and scale to assess the employee development trends.

The proposed methodology in the article is based on staff assessment in two main areas:

assessment of current activity and assessment of development trends.

In the research the criteria and indicators of work assessment of employees of different categories at the agricultural enterprises are substantiated according to the KPI method and method 360°.

The developed system for the personnel assessment at the agricultural enterprises provides assessing the current activities and trends of the employees' development in the context of systematic and final assessment. This will facilitate to make rational management decisions on the implementation of an effective motivational mechanism at the enterprises.

The developed methodology of personnel assessment can be used at agricultural enterprises of different specializations, as well as from different countries with a emerging market, not only in Ukraine.

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