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# The role of personnel motivation in the risk management system of energy companies with employee stock ownership

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**Abstract.** The impact of motivation of the personnel of joint-stock companies on increasing the efficiency of their economic activities and reducing management risks has been examined. The world experience in the development of property and management decentralization has been investigated. The current state of the functioning of companies with employee stock ownership has been analyzed, and main contradictions in the distribution of their income have been given. Specific recommendations have been given to resolve these contradictions in order to apply them by joint-stock companies of the energy sector of Ukraine in their economic activities.

## 1. Introduction

The deterioration of the current state of the energy sector of the Ukrainian economy is mainly associated with the coordination of macroeconomic policy. At the same time, many microeconomic factors, as well as motivational ones, play an important role, and affect the efficient operation of companies. Moreover, motivation in production in the modern world should not be limited to raising wages or using non-material incentives. It is necessary to actively involve the personnel of companies, including energy companies, in the processes of democratization of property and management, which implies the theoretical substantiation of the issue under study, taking into account the actual world experience.

## 2. Critical literature review

The issues of property and management democratization with the aim of more equitable distribution of incomes have been studied by many scientists. The origins of the theory of the development of companies with collective ownership go back to the end of the 10th- 5th century, which was reflected in the works of R. Owen and Ch. Fourier [1]. The merit in the development and promotion of the modern theory of companies with employee stock ownership belongs to L. Kelso, J. Logue, Z. Tanko [2-4]. The discussion about efficiency of companies with employee stock ownership also had a huge resonance in the post-Soviet space in the early 90s of the last century in connection with the extensive processes of denationalization and privatization that was reflected in publications of I. Balabanov, Y. Keremetsky, V. Kudryashov, V. Rutgeise, V. Supyan [5-9].

At the same time, the decay of privatization in Ukraine and in other post-Soviet states at the beginning of this century, its implementation in the interests of a narrow circle of people has led to a



serious decrease in attention to this issue. In recent years, considerable attention to companies with employee stock ownership issues has been paid in the publications of A. Batura and T. Koryaginoy, R. Muhametlatypov, A. Sirko, R. Habibullin [10-14], and among studies on motivation and personnel management in publications of I. Buyan, A. Vasilik, A. Deineka, B. Daisley, R. Charan, A. Shakirov [15-20]. This fact is due to a decrease in the number of such companies (especially in the post-Soviet space), their insufficient financial stability, and significant differentiation in the income of various categories of personnel.

Nevertheless, the development of companies with employee stock ownership requires, in our opinion, further research, because their operation is a major breakthrough in motivating personnel to perform more efficiently. This factor contributes to the greater competitiveness, reduces economic risks, and, ultimately, provides higher profitability.

Formulation of the objective of the article. The objective of the article is to summarize the world experience in the decentralization of property and management, as well as to resolve the emerging contradictions in the distribution of income for their use in managing risks associated with the processes of personnel motivation. Specific recommendations have been suggested for their application in joint stock companies in the energy sector of the Ukrainian economy to achieve the mentioned objective.

### **3. Methodology and results**

It is a common fact that the efficiency of any company depends on a variety of conditions, including the ability of its leaders to carry out continuous monitoring of various external and internal risk-contributing factors that affect the economic situation of the company. Among them, the risks, associated with staff motivation, seem to be one of the basic ones in the economic activity of companies, in their pursuit to maximum profitability.

Risks that are caused by ineffective personnel motivation system can have the most negative impact on the economic position of a company up to its bankruptcy. Therefore, every manager understands the dependence of the company's successful work on the use of effective personnel motivation system.

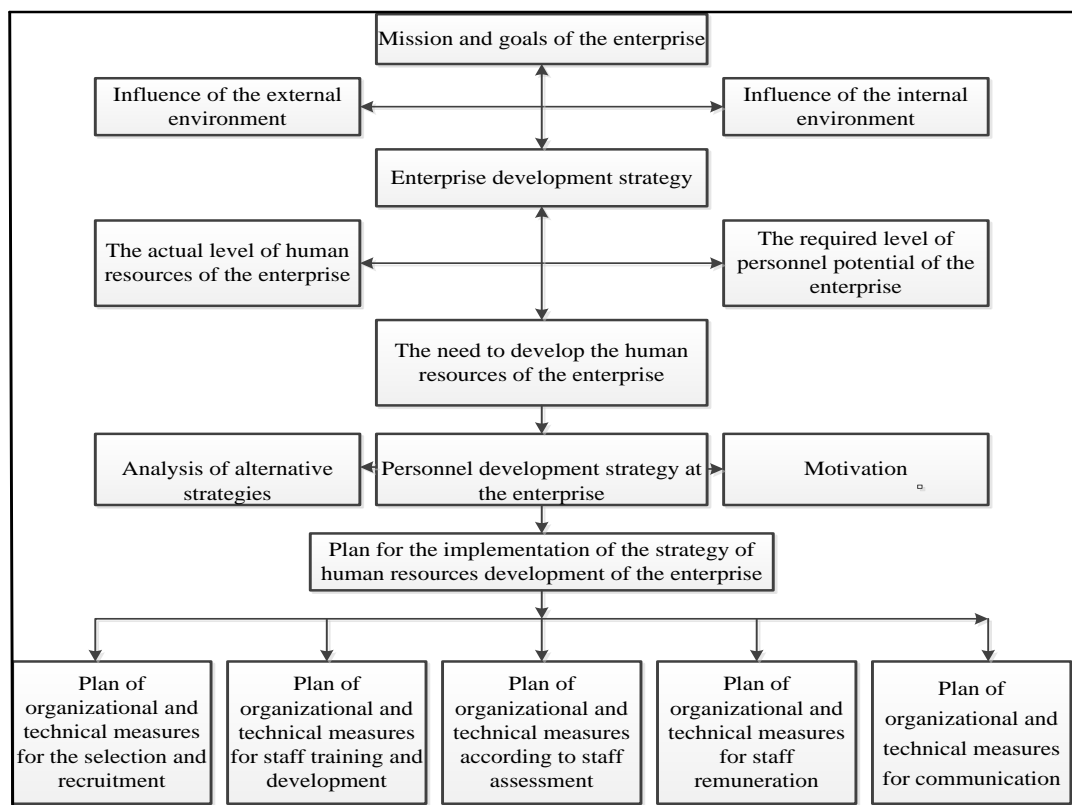
Until the middle of the twentieth century, the main stimulating factors for the effective performance of company personnel were various types of both material (fair wages based on performance of functions, the use of various bonus systems, the possibility of career development, the provision of various social packages), and non-material incentives (social, psychological, moral, organizational motivation). At the same time, in different countries in the second half of the last century, researchers began to think about fundamentally new principles of personnel motivation. This was especially relevant for the USA, Canada and the Great Britain in the 60s - early 70s of the twentieth century, where a decrease in the growth rate of labor productivity, a significant turnover of personnel, and a deterioration in the quality of products was observed during this period. The use of various forms of industrial democracy by many companies, including large corporations, - from groups for solving specific production problems to fully autonomous, self-governing teams, has given no result. The solution to the problem, for example in the United States, was found through the development and implementation of an employee stock ownership plan program (ESOP), which gave positive results over the next decades.

In this study we consciously don't focus attention on description of the mentioned results. They are well and thoroughly described in economics literature [5-14]. We would like to note that in the early stages of ESOP program or similar plans introduction in most companies, there was a significant increase in labor productivity, a significant increase in profitability and absence of strikes. Democratization of ownership and management have enabled the employees of companies using ESOP plans, to get current income as well as to increase their retirement savings. According to the study conducted by the US National Center for the Employee the Ownership, retirement savings of personnel of companies with employee stock ownership in 2018 are more than 2 times higher than in traditional companies [21].

At the same time, having reached about 10%, the number of companies with employee stock ownership, for example, in the United States, stopped growing, and over time, even a small decrease began to be observed (currently there are about 6,500 companies in the United States using ESOP plans and etc., covering more than 14 million workers [22]). Among the factors that caused this situation, it is necessary to underline economic stratification, manifested in a significant differentiation of incomes of various categories of personnel, as well as limited financial capacity (especially in those companies that are 100% owned by employees). In our opinion, the reason for this is found in contradictions that arise in the process of functioning of companies with employee stock ownership. These include:

- the contradiction between distribution according to work and distribution according to value (capital);
- the contradiction between the short-term interests of a company employee as an employee and his long-term interests as a co-owner;
- the contradiction between the efficiency of economic activity and economic equality, which causes a significant differentiation in the income of personnel.

It is impossible to find ideal forms for resolving these contradictions, just as there are no completely “consistent” collectives. Relationships in any company, as in every civilized society, are built on a system of compromises between mutually contradictory principles. This statement is fully applied to companies with employee stock ownership, and finding a solution to these contradictions is extremely important, so, it is necessary to consider them in more detail (Figure. 1).



**Fig: 1** Personnel management development strategy

An important element of the incentive system is the evaluation of staff performance on the following indicators: production, product quality, material savings, time savings, fuel economy, compliance with deadlines, innovation proposals, compliance with social norms (unity with the team,

mutual understanding with colleagues, etc. n.), transfer of experience, professional development and professionalism, as well as satisfaction with their activities.

To assess the potential or actual management skills of managers in the work developed a special model to determine the integrated indicator (score) of business qualities of the manager of the enterprise. The results of expert assessment of potential or actual management skills of managers are shown in table 1.

**Table 1.** The results of expert assessment of potential or actual managerial abilities of the manager

Expert	Sequence number of business qualities of the manager - points							
	1	2	3	4	5	6	7	8
1	4	3	3	2	4	3	5	4
2	4	3	4	2	4	3	5	4
3	5	2	4	3	4	3	4	4
4	5	2	3	2	5	3	5	5
5	4	3	4	2	4	2	5	5
<b>The importance of quality</b>	<b>10</b>	<b>7</b>	<b>4</b>	<b>8</b>	<b>3</b>	<b>3</b>	<b>6</b>	<b>8</b>

Business qualities of the manager , considering , that according to the weight of qualities the minimum value of the integrated indicator is equal to 49, average - 147 and maximum - 245 points.

$$K = \frac{\sum_{i=1}^n \sum_{j=1}^m \alpha_j \beta_{ij}}{n}, \tag{1}$$

where  $\alpha$ - weight of quality;

$\beta$  – the result of expert assessment.

According to the results of calculations, we can say that the indicator of potential and actual management skills of the manager indicates the average level of the integrated indicator. In our case, the income of the company's personnel depends on the results of its economic activities and consists of two main components, one of which is associated with wages (distribution according to labor), and the other is associated with the payment of dividends (distribution by capital). The establishment of too high tariff rates of wages and, accordingly, a significant share of the wages fund (WF) in the total income of the company to the detriment of the dividend payout fund (DPF) reduces the motivation of workers to achieve higher end results. In addition, in such a case, the role of the employee vesting program in its company, the purpose of which is to decentralize ownership and management, is strongly discredited. On the other hand, the reverse process levels out the labor participation of co-owner workers in the production process, reduces interest in the results of their own labor.

The resolution of this contradiction will be facilitated by the establishment of optimal ratio between the size of WF and DPF. At the initial stages of the functioning of companies with working joint-stock ownership under favorable economic conditions, it is advisable, in our opinion, to establish this ratio in a ratio of 2:1 and strive for the total volume of these funds to reach 60-75 % of the company's net income. Of course, these figures may fluctuate depending on the macroeconomic situation, market conditions, specific production conditions, and ownership structure. For example, if in companies with employee stock ownership, its employees own a different number of shares and this difference can reach significant values, then it is desirable to increase this proportion in favor of wages fund, so that the income of each co-owner doesn't break away from his labor base.

Further research into the distribution of income in the above companies leads to the need to analyze the system of interests that arise among employees who are also co-owners. Participating both in the process of creating material wealth and in managing their own company, it doesn't mean that they focus on achieving maximum overall efficiency. Therefore, the task of optimally linking the short-

term interests of workers with their long-term interests as co-owners seems to us extremely important. What is the essence of this issue?

On the one hand, employees of companies considered by us, are interested in getting as much current personal income as possible. On the other hand, by becoming co-owners, they have a need for long-term interests, for work for the future. It doesn't arise automatically, as in private entrepreneurs, who, by the fact of owning a business and the fear of losing it, are sufficiently motivated to distribute profits in such a way that allows them to realize their long-term interests. Miscomprehension by the personnel in economic, organizational, and management issues also aggravates this contradiction.

All this leads to the need for careful selection of the top- and middle- management of the company (as the number of co-owners, and external workers), whose task would be to ensure the best results of economic activity of the company, taking into account the interests of the staff. And what will be the driving motive for their effective functioning?

In our opinion, two mutually complementary aspects are of fundamental importance in the formation of short-term and long-term interests of the top and individual categories of middle managers. First, the establishment of a sufficiently high level of remuneration, exceeding the average for the company several times, or reaching 10-15% of the total salary fund (depending on the size of the company, indicators of its financial activities, etc.). Secondly, the long-term interests of top managers are satisfied by giving them shares in the amount that is also higher than the average in the company. The establishment of such values of wages and the number of shares that would allow supporting the short-term and long-term interests of the top- and middle-management, without causing displeasure of the rest of the staff.

An additional incentive to achieve maximum efficiency is the opportunity for employees-co-owners to increase their individual share in the total capital of the company at the expense of funds allocated from net income to the development fund. The principles for the distribution of these funds can be determined by the decision of shareholders in two ways: either in proportion to the shares available, or depending on the level of remuneration and length of service.

Of course, this factor leads to the strengthening of the long-term interests of the personnel, on the one hand, and, on the other hand, it increasingly differentiates the gap between individual shares, which results in a certain economic inequality within the company. However, this inequality, according to J. Logue, Professor at Kent State University (the USA), is not a consequence of either speculation or exploitation, and reflects differences in the length of service of employees of collective firms [3, p. 47].

Thus, we come to the following contradiction: between the efficiency of economic activity and economic equality, which causes a significant differentiation in the income of employees of co-owners. The fact of matter is that income differences in companies with employee stock ownership can be reflected in the efficiency of all their activities in the direction of its decline. The attempt to equalize incomes leads, as a rule, to a drop in interest in joint effective activities. The same result is obtained by establishing excessively large differences in the level of wages and ownership of shares in one's own company.

Analyzing the way out of this situation, it should be noted that the differentiation of the income of the personnel of companies with employee stock ownership, as in any other, is inevitable. However, the containment of excessive differentiation will be facilitated, on the one hand, by the establishment of optimal proportions and limitations of this differentiation (as mentioned above), and, on the other hand, by providing all employees-co-owners with the opportunity to participate in the management of the company in various forms by joining the Board of Directors (as in the US and the UK) or Board of Executive Directors of joint-stock company (European continental model) in the presence of the Supervisory Board, as well as participation in decision making at the general meetings of shareholders, at the level of the department, work team or workshop section.

Experience of the corporation "Mondragon" ("Mondragon Cooperative Corporation"), one of the ten largest in Spain in terms of revenue, proves that great success for its more than fifty-year history of the development it has achieved at the expense of limiting wage differentiation (different cooperatives

included in the corporation, the ratio between the maximum and minimum wages is from 3:1 to 9:1), a clearly developed system of profit distribution, wide participation of employees in the management of the organization, significant social guarantees, opportunities for advanced training in their own educational institutions [23]. In the United States, companies with working shareholdings have certain statutory restrictions on the ownership shares that high-income staff can have got by the law. In addition, according to some economists, the highest economic performance of such companies is ensured not only by the accumulation of their shares in joint ownership on the employees' accounts, but also by the expansion of participation in management decision making [3, p. 44; 6, p. 136; 24-25]. The world experience of the successful functioning of many companies with employee stock ownership, primarily in the USA [26], Spain, Sweden, Finland and other countries, makes it possible and necessary to use it in Ukraine, in particular, in the energy sector, where the successful development of such giants such as private companies “DTEK”, “VS Energy”, “Ukrenergokonsalting”, as well as some state companies “Naftogas of Ukraine”, “Energoatom”, “Ukrenergo” to some extent, will depend on the introduction of modern progressive forms of motivation.

“DTEK”, for example, has a remuneration system that takes into account professionalism, the complexity of work and the degree of responsibility, as well as measures of social support and improvement of the qualification level of employees [27]. Known for its progressive innovation, the company could draw on its experience of involving workers in property ownership and management. At the initial stage it can be done as an experiment and to one or more companies, giving (selling, transferring free or on credit) employees shares in a small amount of the total. The share of each of them in that part of the share capital, which becomes the property of the personnel, depends, as a rule, on the amount of remuneration and length of service in the company. In order to take into account all the nuances of employee motivation, we suggest the following formula for the dependence of the value of this share (individual share) on these factors:

$$Sh_i = \frac{ShCe}{N} \cdot \sqrt[n]{\frac{IWe}{AWe}} \cdot \left(\frac{WE_i}{WE_a}\right)^n, \text{ (for } n \geq 1), \quad (2)$$

where  $Sh_i$  - individual share of each employee-co-owner;

$ShCe$  - part of the share capital to be distributed among employees;

$N$  - number of employees-co-owners;

$IWe$  - individual wages of employees;

$AWe$  - average wages of employees;

$WE_i$  - individual work experience in the company;

$WE_a$  - average work experience in the company;

$n$  - the degree of decrease (increase) of the efficiency of coefficients.

This formula takes into account the influence of the wages and length of service of each employee-co-owner on his individual share. At the same time, it is suggested to reduce the efficiency of the coefficient of wages while increasing the efficiency of the coefficient of work experience, which is common in world practice.

Scaling up the democratization of property and governance will depend on the first results of this experiment. The mentioned aspects can be used by other private participants in the Ukrainian energy market.

#### 4. Conclusions

This study allows us to conclude that, despite certain difficulties, companies with employee stock ownership operate successfully in many countries of the world, showing higher results in terms of profitability, labor productivity and other indicators compared to traditional companies. Their further development depends both on external, primarily institutional factors, and on internal factors, which include the resolution of contradictions arising in the course of the activities of companies with

employee stock ownership. The types of these contradictions and methods of their resolution are shown in the following resulting table 2.

**Table 2.** The types of these contradictions and methods of their resolution

Type of contradiction	Resolution methods
The contradiction between the distribution of labor and distribution by cost (capital)	- optimal ratio establishing between the size of the wage fund (WF) and the dividend payout fund (DPF).
The contradiction between the short-term interests of a company employee as an employee and his long-term interests as a co-owner	<ul style="list-style-type: none"> <li>- the establishment of remuneration for the top- and middle-management at a level that is several times higher than the average for the company, or reaching 10-15% of the total wages fund;</li> <li>- the top- and middle- management shares scheme in the amount also exceeds the average in the company;</li> <li>- increase by employees-co-owners of their individual share in the total capital of the company at the expense of funds allocated from net income to the development fund.</li> </ul>
The contradiction between the efficiency of economic activity and economic equality, causing a significant differentiation in staff income.	<ul style="list-style-type: none"> <li>- establishment of optimal proportions and restrictions on income differentiation in the company;</li> <li>- providing all employees-co-owners with the opportunity to participate in the management of the company in various forms.</li> </ul>

The modern world economy increases at a rapid rate and companies need to use innovations that will allow them to achieve maximum efficiency, while not forgetting about social responsibility. From our point of view, the formation of employee stock ownership in Ukraine in general, and in the energy sector, in particular, taking into account the entire world experience, will be effective and socially responsible.

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