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Employees' Stimulation for the Perception of Innovations

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Abstract. The article justifies the approach to the encouragement of employees of the organization to the perception of innovative activity products. At the core of this process there is an estimation of their activity regarding contribution to this process by group examination with point scoring of each employee on the selected criteria.

The principles of formation and distribution of the bonus fund, which it is proposed to establish on the basis of proportion of the sum of average scores which the employee received in total, are given. 20% of employees with the low rates are not paid the bonus.

Such approach to the stimulation of innovation implementation in the organization will create a positive institutional environment and reduce implementation time.

Keywords: incentive; stimulation; award; innovation; implementation; employees of the organization; evaluation; expert; institutional environment; knowledge.

Introduction. An innovative activity is one of the activity types that characterizes the efficient use of labor potential of the company. Its importance and necessity for the improvement of the results of public benefit activities is due to the fact that it forms the basis for improving the competitiveness of enterprises, development (growth) of employees.

However, the level of innovation activity, which is determined by the number of new ideas and their development, the ability to solve unusual production problems, participation in rationalization and invention, in search of reserves, work methods improvement, does not entirely define the innovative development of enterprises.

The employees of the organization are one of the subjects of innovation work, as innovation products include new methods of work organization, management, implementation of new technologies, etc. In the process of innovation implementation the management of organization may face the problem of employees' resistance to changes accompanying the innovation, because of the employees' unwillingness to learn new working methods, to study or because of their misunderstanding. In its turn, it requires expenditure of time and money for information search, adaptation, stress release due to unknown future. This may significantly extend and complicate the implementation of innovations.

Thus, overcoming of the employees' resistance to changes requires the search for effective principles of the improvement of the innovation management mechanism, which presupposes the encouragement of employees to accept the innovation. Despite the fact that innovations are aimed at achieving such objectives as cost reduction, acquisition of new useful properties of the product or service, improving the organization labor, at the same time, their typical features are the increase of the complexity and intensity of labor at the first stages of work. It's known that innovation makes human activities easier. However, before they can be applied efficiently, they should be mastered, which requires significant financial and time costs.

Misunderstanding and neglect of these aspects can lead to the failure of some innovative projects.

In this case, the management faces the task of improving the innovation implementation process. We believe that one of the main directions is tangible incentives for employees.

Materials and Methods. Significant contribution to the issue of overcoming staff resistance to changes, which accompany innovations, were made by such scholars: A.V. Alekseeva, I. Ansoff, M.M. Vlasova, G.I. Dibnis, A. Kammel, I.V. Koniev, J. Cotter, J.B. Quinn, A.I. Prigogin, N.I. Fedinets, S.S. Frolov, Y. Hentts, E. Hughes, L. Schlezinger and others.

We would like to name the following scientists who rate stimulation as one of the ways to support innovation: A.S. Afonin, I.A. Batkaieva, R. Diakiv, V. Diatlov, P.V. Zhuravlev, A.V. Kalina, A.M. Kolot, V.P. Nesterchuk, V.P. Sladkevich, V. Travin, V.I. Shkatula and others.

While acknowledging the performed studies we should note the lack of attention to the formation of the employee stimulation system to perception of innovations based on evaluation criteria of their activity in this direction. For the reduction of the innovation implementation period, formation of a positive employees' attitude, increase of the activity to learn the necessary information it is necessary to study theoretical, methodological and practical approaches which defines the purpose and tasks of the article.

The purpose of the article is to develop the methodical approach to the tangible incentives for employees regarding innovation implementation.

According to the article the following tasks were assigned and consistently solved:

- peculiarities and objectives of innovations implementation are defined;
- the essence of the category of employees' stimulation to perception of the innovations implementation is examined;
- the algorithm of employees stimulation based on evaluation of their activity to the innovations implementation is developed;
- evaluation criteria are identified and systematized;
- principles of formation and distribution of bonus funds in accordance with the employees' activity in the implementation of innovations are given.

Discussion. The activity of employees in the implementation of innovations in an organization depends on their needs, values, interests, motivations which are influenced by a variety of incentives.

The study of employees' stimulation issues in this aspect has both theoretical and practical values, which allows development of effective measures for innovative activity at the enterprise.

The role and importance of stimulation in the process of providing a favorable institutional environment for innovation implementation can be explained basing on the definition of this category by different authors.

In the economic literature there are different interpretations of the category of stimulation, but mostly, they are focused on the stimulation to work, innovation activities, while no less attention must be paid to the stimulation to innovation implementation within the company.

In general stimulation is regarded as formation of employees' interest in achieving their goals and tasks.

I.A. Batkaieva considers stimulation as an approach to solving the problem, according to her it is aimed at the actual value orientations and interests of employees, to fuller realization of their labor potential [1, p. 484–485].

According to R. Diakiv stimulation is an economic inducement, the use of financial incentives to influence producers, consumers, customers in a way that they act in interests of people applying stimulation [2, p. 557].

P.V. Zhuravlev interprets this category as creating such employment, economic situation, which could interest the object of stimulation and incent to act in a certain way. Tangible and moral incentives are distinguished among the external work motives. Tangible incentives can be expressed in monetary terms (salary, bonuses, etc.) and non-monetary (vouchers for the rest and treatment, providing housing, the right to obtain deficient goods, subsidies from the enterprise, etc.) [3, p. 424–425].

V. Travin and V. Dyatlov determine the category "stimulation" as an external excitation, element of work situations that affect human behavior at work, material form of motivation. However, it carries an intangible load, which allows the workers to realize themselves as a personality and an employee at the same time. It performs economic and social function [4, p. 126].

In further studies, they indicate that stimulation is the creation of conditions under which labor activity, which receives previously registered results, becomes a necessary and sufficient

condition for satisfaction of employee's needs, which are important for him, and formation of his labor motives. [5, p. 111].

Thus, satisfaction of employee's needs, interests and motives depends on internal factors (motives) and external factors (incentives).

"Stimulus" (Latin word "stimulus") literally is translated as a sharpened stick, whip. First, the stimulus meant a means of compulsion. Over time, this concept has been linked with the encouragement. Inducing force can be either "carrot" or "stick." Stimulus, as well as interest may be material and moral, personal, collective and public [6, p. 362].

A.M. Kolot emphasizes the difference between the stimulus and the motive, indicating that incentive actions are based on external material and moral factors, it means that stimulation is an external inducement. Moreover, he notes that the incentive becomes the motive for a person when the person realizes it as a fair compensation [7, p. 292].

By definition of N.M. Bogatska, O.S. Neichenko labor stimulation is a way to reward employees for taking part in the production, which is based on comparing the labor efficiency to technological requirements [8].

Adapting the given definitions to the problem of improving the level of employee activity in the innovations implementation in an organization, we consider it appropriate to determine the employee stimulation to accept innovation as an inducement of employees to form a positive attitude to innovation, shorten implementation, increase their loyalty to this process and reduce resistance based on establishing of the relation between the results of work in the new conditions and the reward.

In the labor process a clear understanding how to get reward and for what it is paid plays an important role. The use of multi-system stimulation encourages employees to growth, mastering new working methods, improvement of the competitive position of their company.

Results. During this stimulation we offer to do periodic evaluation of employees, creation of database and determination of an award. We consider, this should be done by the following algorithm:

1. Defining of the goals and objectives of employee stimulation to the implementation of innovations.
2. Selection of methodical approaches to the stimulation and evaluation of employees. Determination of the expert commission. Singling out the evaluation criteria. Preparation of evaluation forms and creation of a database form.
3. Conduction of an assessment among employees.
4. The calculation of expert opinions coherence in order to provide objective information.
5. Storing data in the current database. Performing calculations. Ranking employees according to the implementation of innovations and the size of award.
6. The payment of award.

In view of the fact that the implementation of innovations in an organization is accompanied by changes in labor activity, the main goal turns to be the improvement of the efficiency of the innovations implementation. The management tasks in this case are:

- shortening of the implementation term will allow to beat competitors and return the investment on innovation faster;
- creating a favorable institutional environment for innovation perception (training employees, developing conscientious attitude to job responsibilities in terms of the innovations implementation, growth of employees, as new situation requires mastering additional information, in other words formation of useful knowledge. The importance of the latter is proved by the famous scientist, Professor of Economic History at Northwestern University Department of Economics (Evanston, USA) Joel Mokyr [9, p. 82 - 87]).

The next stage of the proposed algorithm is to choose methodical approach to evaluation. Within this research, we have chosen the group expertise method to evaluate an employee's activity of innovation implementation assistance providing a score for each individual criterion.

Since this method relates to the expert evaluation types, further commission of experts will be defined. We would like to remind that an expert is a qualified person with a range of issues, problems, which should provide a competent conclusion, an objective assessment. In our opinion among the main experts' characteristics there should be allocated:

- high level of competence and knowledge in the areas that being assessed;
- collective experts assessment must be coordinated with each other;
- no subjective evaluations based on their own interests and preferences must be given;
- a clear understanding of the goals and objectives of the evaluation;
- experts training to assessment procedures;
- analytical skills and self-criticism.

Considering the fact that the management of the organization is interested in positive attitude of employees towards innovation, work quality, we propose to build an incentive system based on the compliance with the certain criteria of activity and assignation of the bonus fund for its distribution among employees on the basis of the evaluation. We propose to attribute next evaluation criteria of employees' activities to assist the implementation of innovations in accordance with the following objectives:

- positive attitude to innovation;
- quality of work;
- on-time tasks execution;
- the level of responsible attitude to innovation;
- the level of labor complexity, due to the working needs in a new unfamiliar environment;
- amount of processed information, which determines mastering new methods of work organization and etc.;
- diversity of the information mastered by the employee;
- labor intensity of each employee;
- the situation assessment rate, solving problems, preventing errors.

The next principles should be followed in determining the reasonableness of the score: put "1" to an employee by the criteria, if according to the expert, he is characterized by the lowest activity level, the maximum score goes to the employee with the highest level of activity. The value of the maximum score is determined by the committee of experts. One of the methods is to determine the number of employees being evaluated.

After experts have evaluated employees for all criteria, the results need to be entered into the prepared database, which example is given in Table 1.

Table 1: An example of a database for expert evaluation by criterion of positive attitude to innovation

No	Employees (surname, name and patronymic)	Expert evaluation by criterion 1 - positive attitude to innovation				Average (column 3 + column 4 + column 5)/m
		Expert 1	Expert 2	Expert 3		
1	2	3	4	5		6
1	A	1	2	1		1,33
2	B	4	3	4		3,67
3	C	2	1	2		1,67
4	D	3	4	5		4,00
5	E	5	5	3		4,33
6	Total	15	15	15		15,00

Where "m" is a number of experts. There are 3 experts in our example.

The data for employees' evaluation by experts for other criterions is similarly recorded. Reliability of such assessment depends on the consistency of experts' opinions, which requires appropriate statistical processing. This is possible by using the Kendall's coefficient of concordance,

which value may be in the range of $0 \leq W \leq 1$. The higher value means the more consistent between the views of experts. [10].

The value of the coefficient of concordance in inconsistent opinions of respondents is 0 ($W = 0$). The higher level of coherence, the greater ratio close to 1 ($W = 1$).

To check the materiality of coefficient of concordance criterion χ^2 must be determined. Coefficient of concordance is being essential if its value exceeds the critical (tabular) value.

After the employees' activity towards innovation is evaluated, the consistency of opinions of experts is defined, the amount of average scores for each criterion of employees must be calculated, the proportion of each employee and their ratings need to be determined, examples of calculations are given in Table 2.

Table 2: An example of calculating the amount of workers' award according to their activity for the implementation of innovations

Nº	Employees (surname, name and patronymic)	Total average points	Share (sum of average worker points / total points)	Rating	Salaries	The bonus (column 4 * column 6)	Note
1	2	3	4	5	6	7	8
1	A	12,00	0,09	5	350	31,11	The bonus is not paid
2	B	25,00	0,19	3	365	67,59	Bonus is paid
3	C	17,67	0,13	4	345	45,15	Bonus is paid
4	D	38,67	0,29	2	370	105,98	Bonus is paid
5	E	41,67	0,31	1	376	116,05	Bonus is paid
6	Total	135,00	1	-	1806	365,88	-

From the table is seen that size of the award is determined by the salary and cannot be higher than it.

Additionally, since not all employees were active regarding innovation implementation, we offer to divide them into two groups: 80% of the first and 20% of the last rated employees. The second group doesn't get award, as specified in column 8 Table. 2.

For clarity, in Table 3 we have given rating and the division of workers to the relevant groups. Thus, in our case, 80% of workers - is 4 people, 20% - 1 person.

Table 3: Groups of employees rated by activity and a bonus received

Nº	Employees (surname, name and patronymic)	Rating	Groups of employees	Note
1	2	3	4	5
1	E	1	80% of the high activity	Bonus is paid
2	D	2		
3	B	3		
4	C	4	20% of the low activity	Bonus is not paid
5	A	5		

Within the article, we've included 3 tables that reflect in details the stages of employees' evaluation by the level of their activity to innovation implementation, data processing, calculation of the rating, the size of awards. In organization practice it is easier to form one common table.

Conclusions. This article gives the theoretical summary and the methodical approach to solution of important scientific and applied tasks of improving employee stimulation to assist the innovations implementation in the organization which is revealed in the development of the approach to the employees' activity evaluation by the following criteria: positive attitude to innovation, work quality, on-time task execution, the level of responsible attitude to innovation, the level of labor complexity, due to the working needs in a new unfamiliar environment, the amount of processed information, which determines mastering new methods of work organization and action, etc.; diversity of the information mastered by the employee; labor intensity of each employee; rate of the situation assessment, solving problems, preventing errors.

To improve the expert evaluation we propose to examine the level of consistency of experts' views by the Kandel's coefficient of concordance.

The algorithm of incentives for employees to accept innovation and stimulation based on the selection of active and inactive employees, their rating and the salary is proposed.

This study makes it possible to state that use of this incentive approach will reduce staff resistance to changes, which accompany innovation, increase the workers' interest to the implementation of innovations, shortening the implementation term and will allow faster covering of the investment on innovation.

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Стимулирование работников к восприятию инноваций

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Аннотация. В статье обосновано подход к стимулированию сотрудников организации к восприятию продукта инновационной деятельности. В основе чего лежит оценка их активности относительно содействию данному процессу методом групповой экспертизы с бальной оценкой каждого сотрудника по выделенным критериям.

Приведены принципы формирования и распределения премиального фонда, который предлагается устанавливать на основе удельного веса суммы средних баллов, которые получил сотрудник, в общей сумме. 20 % сотрудникам с низкими показателями премия не выплачивается.

Такой поход к стимулированию внедрения инноваций в организации позволит сформировать позитивную институциональную среду и сократить сроки внедрения.

Ключевые слова: стимул; стимулирование; премия; инновации; внедрение; сотрудники организации; оценка; эксперт; институциональная среда; знания.