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## **DEVELOPMENT OF PRINCIPLES AND METHODS OF SPURRING EMPLOYEES TO INNOVATIVE ACTIVITY**

*Spurring employees' methods, principles and tasks to innovative activity have been elucidated in the article. Practical recommendations concerning establishment of principals, selecting forms and methods of employees' stimulation to innovative activity for the entities of the region have been developed.*

Keywords: principles, tasks, methods, employees' incentive, innovative activity.

**Introduction.** Economic innovativeness is a decisive factor of socio-economic development of Ukrainian regions and increasing their competitiveness at the modern stage of development. Unfortunately, when the world's economy innovative model is at 40% level of innovativeness, research intensity – not lower than 2,5%, domestic economy innovativeness is not exceed 10-12 %, GDP investigational intensity was less than 0,9% last years [1].

**Problem statement.** An issue of innovations is complex. In the context of global competitiveness it requires systematical measures, flexible mechanisms and tools and obligatory market orientation of all innovative process participants. Such qualities of labor potential as ability to non-stop studying, development and implementation of innovations, manifestation of creativity in work are becoming really necessary for all entities nowadays. Than the statement “if innovation component of an individual employee human capital is the force of organization in market conditions, then it has more chances to develop and produce competitive products, receive higher income and favorable macro- and mezzo-economical results” is true [2].

**Analysis of recent studies.** Numerous scientific papers are devoted to resolving an issue of spurring employees' to innovative activity activation. Such scientists as O.O. Zaharkin [6], T.V. Pisarenko [1], M.V. Semikina [2], A.I. Tyvonchuk [3], O.V. Kolesnikov-Steynrud [4], E. Perotti [12], T. Hellmann [12], S. Cook [11] wrote about this problem in their researches. Mentioned scholars focus on determination the innovations meaning, clarifying structure of entities innovational potential. Besides, they elucidate the priority of ways to promote a scientific and technical development of Ukrainian regions, suggest principles and methods of innovational activity stimulation, etc. However, changes which are taking place in global economic environment require constant revision of innovative strategies and principles of development as well as forms and methods of stimulation.

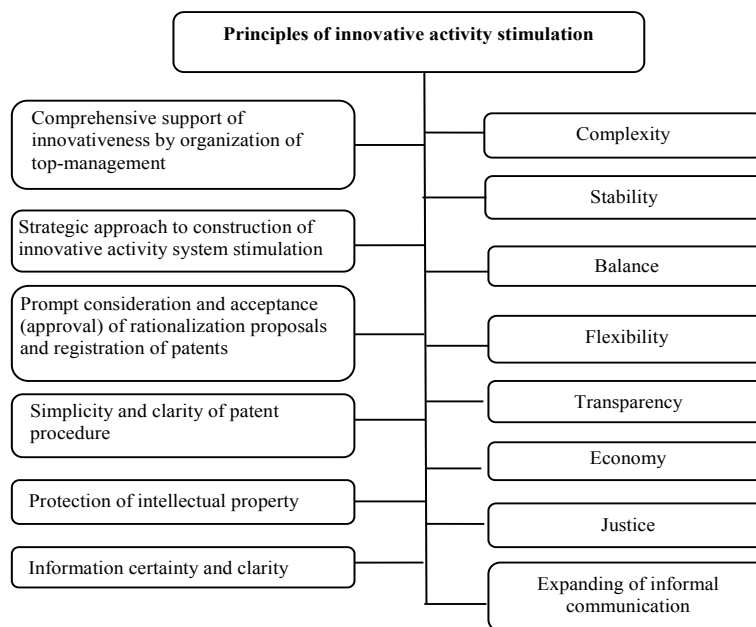
**The purpose of the paper** is to develop practical recommendations for selection forms and methods of employees' stimulation to innovative activity in the region.

**Basic material.** It should be mentioned that to stimulate workers in conditions of innovative process is hard. Whereas, people who work in the sphere of creating and commercializing of new products and technologies are characterized usually by elevated dignity, vulnerability and tend to the autonomy in decision-making. They need self-realization, focus on achieving tangible results; demonstrate high efficiency and productivity of labor in the case if their work is interesting for them. Study of the domestic experience in solving the issue of employees' stimulation to improvement of innovative activity gives us opportunity to make conclusions about wide variation of perceptions concerning development of basic principles, selection forms and methods of stimulation.

For example in O.I. Tyvonchuck's [3] paper it is proposed to accept as constant the following systems of innovative activity stimulation: complexity, balance, stability, fairness and transparency, economic feasibility, flexibility and adaptability. In his opinion, there are several methods of stimulation: salary, allowances to salary, bonuses, profit share, participation in ownership, social programs, awards, certificates, flexible work schedules, employee status change, job change, etc.

The scientists majority add to the list of principals art creativity emancipation, interrelation between the level of employee incentive and result of innovative activity; staff support by required resources; stimulation to reservation of fresh knowledge and experience; expanding informal communication (communication science); comprehensive support of innovativeness by organization of top-management; the simplicity and clarity of Patent Procedure; considering applications on inventions speed and transparency; encourage submission of both individual and collective proposals, the usage of moral incentives.

Generalization of scientists' positions on principles of staff stimulation to innovational activity allows to allocate basic ones (figure 1).



*Figure 1 – Principles of innovative activity stimulation*

Personal is responsible for development and implementation of innovation ideas at enterprise. That is why management should stimulate disclosure of creativity of their employees by using effective methods of stimulation. However, there are reasons to believe, that the model of compatibility acceptance basing on underestimated cost of labor force, minimal investments in human resource is spread between domestic entrepreneurs [4].

There is large discrepancy between knowledge generation and its implementation in Ukraine which is called "technological gap" [5]. Official statistics proves reduction in the proportion of innovational products sales in industrial sphere (tab. 1).

*Table 1 – Implementation of innovations in the industrial enterprises,  
(compiled from [7])*

Years	Proportion of enterprises that implement innovations, %	Implemented new technological processes, processes	including low-waste and resource saving	Commercial production of innovative products,* denominations	of these new types of technology	Proportion of innovational products sales in the amount of industrial sales, %
2000	14,8	1403	430	15323	631	
2001	14,3	1421	469	19484	610	6,8
2002	14,6	1142	430	22847	520	7,0
2003	11,5	1482	606	7416	710	5,6
2004	10,0	1727	645	3978	769	5,8
2005	8,2	1808	690	3152	657	6,5
2006	10,0	1145	424	2408	786	6,7
2007	11,5	1419	634	2526	881	6,7
2008	10,8	1647	680	2446	758	5,9
2009	10,7	1893	753	2685	641	4,8
2010	11,5	2043	479	2408	663	3,8
2011	12,8	2510	517	3238	897	3,8

\* new types of products till 2003

Most of enterprises that have implemented innovations recently are located in Kyiv, Kharkiv, Donetsk, Luhansk, Dnipropetrovsk, Ivano-Frankivsk. The amount of enterprises that were involved in innovative activities in the total number of industrial enterprises of Ukraine in whole in was 16,2 % in 2011 [6]. According to this indicator Kharkiv region is the first one – 18,4 %, the second is Luhansk (13,5 %), third – Donetsk (10,6 %), fourth – Dnipropetrovsk (8,7 %) [7]. This is true for regions of Eastern Ukraine. It is expected that recent actions of Ukrainian Government that were oriented on innovative development support would promote this activity.

The Law of Ukraine “About development and state support of small and medium business in Ukraine” determines the ways of state support to small and medium business enterprises (article 20) in the sphere of innovations, science and industrial production. They are [8]:

- providing of financial support to construct the infrastructure objects of small and medium business in the sphere of innovations, science and industrial products, including business incubators, innovative business incubators, scientific and technological centers, technology transfer centers;
- promotion of venture establishment;
- creation of economic incentives for development of economy which is based on technological innovation;
- scientific products transfer;
- conditions for attracting of small and medium enterprises to conclude subcontracts in innovative and industrial production;
- amplification of mutually beneficial international cooperation in innovation and attracting of foreign investors;
- improvement of conditions for spreading of cooperation between small, medium enterprises and big enterprises.

Effectiveness of this law can be achieved only by creation of appropriate mechanisms.

At the Cabinet of Ministers meeting 2012/08/1 resolution “About the prize of Cabinet of Ministers of Ukraine for development and implementation of innovative technologies” for

promoting of development and implementation of innovative technologies is adopted. According to the Government decision the Prize for the development and implementation of innovative technologies was found. The Prize is awarded annually on completeness base for the nobles achievements in innovative technologies implementation [9].

However, the Government notes that the costs associated with the Prize payment and the laureates diplomas manufacturing will be implemented within the means of the Derzhinformnauky state budget for these purposes. Such approach to the incentives system financing the author consider ineffective as bonuses and rewards give a desired effect in stimulating only when its' directly influence on the results of innovation but not limited by the entity budget possibilities. Also violates of the principle of justice provided by an objective assessment of results. After all, if worthy prize innovators will be more than the funds in the budget, the choice will be determined by more subjective factors rather than objective, provoking an opposite effect (negative) of such incentives.

The basis of the modern approach to incentives in the sphere of innovations at the highest management level of enterprises is based on the following tasks: maximum increasing of individual creativity of everyone and channeling this activity into the mainstream of specific innovative and economic performance achievement. Renowned experience when in the process of work with innovative projects, many companies consider it expedient to use incentives not only for scientists and engineers, but also for all personnel serving with innovative proposals.

The disclosure of employees' creative abilities is promoted not only by high wages (usually the most effective method of stimulation to managers' mind), but by scientifically based organization of the workplace and guaranteed long-term employment at the company, providing social security.

Principle of complexity involves comprehensive consideration of workers' interests with a wide range of incentives (physical, moral, etc.).

Today, unfortunately, there are only few enterprises in Ukraine, where management is focused on investments in human capital with support to innovative initiatives.

In most cases the usage of someone else's ideas that in conditions of imperfect legislation provides an opportunity to get an "easy" profit without spending money on researches and without risks which are associated with research work, are observed.

Innovatively oriented companies pay great attention to organization of creativity stimulation. For example, IBM company encourages innovations that are used. If the offer is accepted, the author gets 25% of its total cost during two years after introduction. 3M Company provides financial support to innovators in two directions: free usage of more 15% of their time and providing of significant resource support through grants and subsidies [3].

A level of intellectual property protection has a great value in the system of incentives. Ukraine has high scientific potential thanks to qualified scientific personnel but the level of intellectual property protection in the country is low. Infrastructure of innovations is undeveloped, functionally uncompleted and incapable to chain all aspects of innovative process. Only a few elements of innovative infrastructure have been formed. Lingering review and acceptance (approval) of innovations, the complexity of patent procedures reduce incentives to innovative activity.

Expansion of informal communication is important factor in creativity development too. In the process of informal communication information is exchanged, possibility of innovation process effectiveness acceleration is increasing. Informal contacts contribute in solving various technical, economical, institutional, industrial, and scientific problems. Informal

communication in organization working time management is considered as an important source of workers effective interaction in creation, industrial development of innovations and their commercialization. All elements of incentive system should be mutually agreed, that is provided by the principle of balance.

In the innovation process spurring of labor must be rather lingering than conducting as a temporary action (the principle of stability). Partnership between workers and company management must base on honesty. Economic feasibility is such investment in staff that must be returned in the form of higher rate of productivity growth compared with the rate of wages growth. Principles of flexibility and adaptability imply an adequate response for changing internal and external environment of organization. The success of innovative process delivers by quantity of direct participants – employees. Forms and methods of spurring of their work in organization are shown at figure 2.

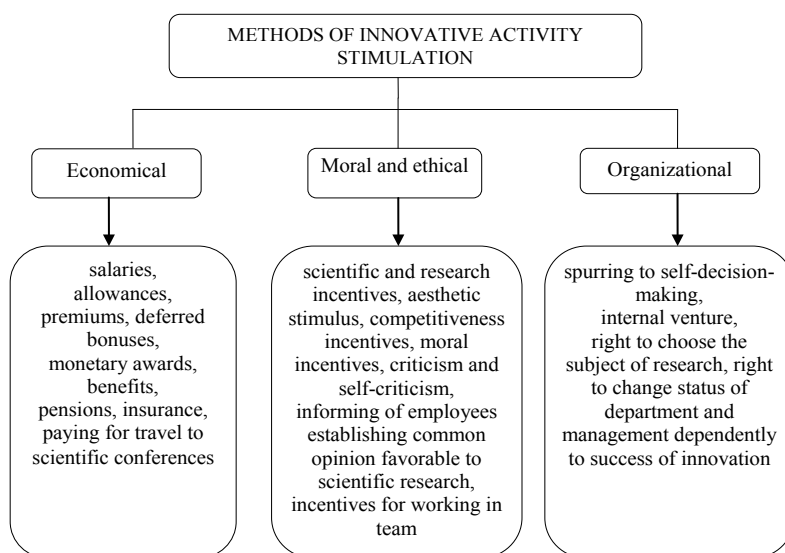


Figure 2 – Methods of innovative activity stimulation

For instance, a lot of French enterprises annually award employees who are involved in innovative process dependently to their working results. This award is on bank account, and innovators receive it only in a specified period (e.g. 5 years). Additional incentive for employees is that the accrued interest on award is taxable.

Scientists Hellmann T. and Veikko T. suggested the system of incentives that should be developed by company management. Fundamental insight from the model developed by scholars is based on the fact that the amount of innovation depends on the strength of incentives provided for the standard task: the higher the performance bonus, the less the employee pursues unplanned innovation [10]. At the same time they provide an idea that neither owner, nor employee will agree with an optimal level of innovations. Some managers deliberately refuse to implement innovations of one employee, because their accepting undermines the other employees' incentives, if both innovations are to be carried out simultaneously the total implementation is impossible. Analysis of the practice of management at large number of enterprises brings understanding to scientists that 84 % of all

industrial enterprises have been paying their employees nothing for developing of innovations [10].

Scientific and research incentives associate with analysis and improvement of organization and management, with development of new organizational structures and improvement of management process in the organization. The main purpose of scientific and exploration incentives establishment is increasing skills, learning of theory and best practices of personnel managing. This incentive encourages searching of new solutions and innovations.

When the process of searching of new forms and methods of work is completed successful, sense of deep satisfaction evokes. It is necessary to understand that the task of scientific and technical work promotion is quite difficult. In one case there is a need to maximize staff activity in searching new knowledge, new ideas, and in the other – the activities of personnel should be guide towards achieving certain innovation and economic performances. Aesthetic incentive of employee appears in the formation of original decision, successful version of its performance at the level of art and high professional skills. Incentives of competitiveness encourage employees to increase professional skills and training, spurre them to be the best in the team of organization. It is promoted by competitions and by reviews of the best workers. Being the best among others is natural need of any person. Special place in the structure of spiritual incentives occupies by moral one. It is based on understanding the necessity of labor by employee as a matter of honor, conscience and citizenship. Organizational methods of innovative activity stimulation are: spurring to self-decision-making, creating conditions for completing investigations, development of company “risky assets” for financing the creation of special departments in development of critical inventions (internal venture). For instant, the founder of Intuit company S. Cook allows his engineers and product managers to devote 10% of their workweeks to developing of new business ideas and product specifications [11].

The most widely spread modern forms of state spurring are preferential income tax results of investment and innovative projects, establishment of network of parks and technopolises, preferential income tax results of investments in small innovative business, tax credits, subsidies. Preferential income tax results, tax incentives and good mechanisms for venture funding are effective tools for stimulation of high-tech enterprises development. Important steps to support a process of innovative infrastructure establishment and with the purpose to succeed high level of competitiveness at the world market by increasing a part of high-tech products export have been done in Ukraine. Among them – creation of the State innovative non-bank financial institution “Fund for supporting of small innovative business”. The main tasks of this institution are: to organize the selection of innovative projects, to attract investments in the introduction of new technologies and technological renovation of production. The central issue in solving the task of innovative activity increasing is selection and implementation of determined innovational strategy taking into account the level of the region labor potential innovativeness and securing the full usage of its resources. Every region has its own innovation potential, therefore innovative policy for each region will have its own peculiarities and differences. Selection of forms and methods for stimulating employees to innovative activity is defined by economic and social status of regional economy, by competitiveness of labor potential, by directions of its development (medium and long term development strategy).

Generalization of world experience in spurring of innovations gives us opportunity to make conclusions about the role of taxes exemptions. In different countries the following exemptions are used: tax cuts for innovative business, exemption from certain taxes venture firms, investment tax credits, write-off the cost of R&D deductible for tax calculation.

In our opinion, Ukraine has practical interest in the implementation of investment tax

credit that can help to solve an issue of increasing investment resources volumes at enterprises and to accelerate regional and total country investment and innovative development. It would have been feasible to provide investments' tax credit in the Tax Code for businesses introducing advanced technologies. This will solve a wide range of regional and total country social problems.

**Conclusions and directions for feather researches.** The proposals for state authorities and local governments concerning mintage of an efficient patent system delivering information to regional entities of innovative activities, forcing financial support from regional authorities of innovative enterprises by forming an initial investment funds, refinement of the legal framework in the state regulation of innovative activity area, improvement of the regional social infrastructure were developed in the article.

System of R&D department employees' clear awareness about strategic and medium directions of enterprise innovative activity; spreading of the practice of involving the Board of Directors in formation of new technological enterprises, departments and labs policy reinforcing R&D staff motivation; providing of anticipatory effect of workers training in manufacturing; promoting of spurring fostering of employees' innovations by the usage of "deferred awards"; implementation of specific social programs are recommended for business entities by author.

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**С.Ф. Большенко. Формування принципів та методів стимулювання працівників до інноваційної активності**

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**С.Ф. Большенко  
Формування принципів та методів стимулювання працівників до інноваційної активності**

*У статті досліджено принципи, завдання, методи стимулювання працівників до інноваційної активності. Розроблено практичні рекомендації для суб'єктів господарювання регіону щодо формування принципів, відбору форм та методів стимулювання працівників до інноваційної активності в регіонах.*

Ключові слова: принципи, завдання, методи, стимулювання працівників, інноваційна активність.

**С.Ф. Большенко  
Формирование принципов и методов стимулирования работников к инновационной активности**

*В статье исследованы принципы, задания, методы стимулирования работников к инновационной активности. Разработаны практические рекомендации для субъектов ведения хозяйства региона относительно формирования принципов, отбора методов стимулирования работников к инновационной активности в регионах.*

Ключевые слова: принципы, задания, методы, стимулирование работников, инновационная активность.

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