

## The Formation of the System of Evaluation of Enterprise Workers' Competence

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**Abstract.** The system and the criteria of evaluation of enterprise workers' competence which will provide the possibility to quantitatively evaluate workers' competence to find appropriate management solutions concerning the influence of its development on the efficiency of enterprise financial activity functioning has been formed and grounded.  
**Key words:** workers' competence, competence evaluation indices, the criteria of competence evaluation, functional aspect of duties accomplishment, creative aspect of duties accomplishment.

### STATING THE ISSUE

The development of national industrial enterprises proves the necessity of their goals and activity directions change. Under such circumstances the prior task of national industrial enterprises, which needs solution, is employees' adaptation to the changes of conditions which occur. For a start, attention should be drawn to the system of employees' training; the development and improvement of their competence; the motivation system which influences their completion of positional duties. Such measures need national enterprises to expand the tactics of evaluation workers' competence.

The literary sources analysis [1, 2, 7, 8, 13, 17, 18] allows to claim that workers' competence is better characterized according to separate indices. Taking it into account, the importance should be attached to the formation of the system of evaluation of worker's competence, which will allow reflecting different sides of this economic category level. Apart from this it is worth mentioning that such evaluation will make a basis for the formation of different management solutions concerning training, development and workers promotion in future.

### BASIC ISSUE PRESENTATION

There are a number of approaches concerning the evaluation of enterprise workers' competence, presented in the works by modern national and foreign scientists. In this way [6] distinguishes three groups of competence: corporative, professional and behavior-like. The author claims that the evaluation of workers' competence «means definition of importance of the competence offered within the group, which characterizes the degree of importance of every group to effectively complete certain tasks and achieve general goals of the enterprise» [6]. In addition to all this the scientist suggests the model of personnel competence evaluation, which allows completing the drawing of workers' competence and define the zones of certain competence occurrence.

L. Burkova [3] divides the competence into basic, additional and minor ones. Respectively, the author has offered a three level process of competence evaluation, where every level of evaluation needs offering certain points. The data are summed up and compared according to given evaluation criteria.

Algorithm model of personnel's functional duties efficiency has been offered by scientists K. Ushchapovsky and [9]. The model includes the scheme of the functional personnel's duties model under current system of management, rewarding evaluation of personnel's work indices, the evaluation of workers' training cost, the evaluation of diagnosis worth of personnel needs in a way of survey and the implementation of respective methods of motivation, the evaluation of key competence under current system of personnel management evaluation of competence, which

should be supplied in the process of improving the personnel management system.

The analysis and generalization of literary sources [1; 3; 6; 7; 9; 16] showed that the scientists do not possess a unified conception concerning the system of evaluation of industrial enterprise workers' competence. However, having analyzed the given results of national and foreign scientists' investigations of workers' competence, it is worth considering them according to certain components as: knowledge, skills, and worker's personal characteristics. In addition to this it is worth accentuating the very quantitative evaluation of the given parameters, which would allow investigating the influence of certain factors on the meaning of worker's competence development. Apart from this, quantitative evaluation of workers' competence will offer the possibility to investigate the influence of the competence level development on financial indices of industrial enterprises activity. It is also worth mentioning that such evaluation will make a basis for different managerial decision making concerning training, development and workers' promotion.

Applying the results of constituents analysis (knowledge, skills, personal characteristics), which define enterprise workers' competence, considering the entity of the notion «workers' competence», and also the level of their occurrence, the worker's competence should be investigated with the help of two aspects of workers' duties completion: functional and creative. Functional aspect of duties completion means enterprise workers' task completion respectively to the positional instruction. Creative aspect of duties completion means an application of nonstandard, creative worker's thinking; the skills to produce new ideas; the worker's ability to effectively produce new extraordinary ideas; worker's ability to effectively demonstrate one's knowledge, skills in case of nonstandard situations. The indices mentioned above may be presented in the form of workers' competence evaluation matrix (Table 1).

Such approach to indices grouping will allow finding out the efficiency of workers' competence application when completing their positional duties, and also making managerial decisions.

**Table 1.** Workers' Competence Evaluation Matrix

	Knowledge	Abilities	Skills	Personal Characteristics
<b>Functional Aspect of Enterprise Workers' Task Completion</b>	The Level of Notions and Facts Application (NI)	Action Completion Rewards (Ar)	The Level of Adopted Skills (SI)	The Responsibility Level (RI)
	The Level of Methods and Procedures Application (MI)	The Ability Level of Task Completion and Methods Formation (TI)		The Level of Emotional Intellect (EI)
<b>Creative Aspect of Enterprise Workers' Task Completion</b>	-	The Level of Creative Decision Making (CI)	-	The Creative Intellect Level (Ci)
		The Innovations Implementation Level (II)		The Initiative's Level (Lin)
				The Level of Rational Activity (Ra)

The level of notions and facts application and the level of methods and procedures application allow analyzing the worker's knowledge correspondence to the demands defined by the positional instruction. Apart from this, during the period mentioned, analyzing the given indices an enterprise is able to influence the change of notions and facts, methods and procedures level, raising the quality of workers' knowledge in a way of different trainings, seminars, workshops, etc.

**The Level of Notions and Facts Application (NI)** – reflects the disclosure of the range and meaning of notions and facts; the implementation of logics of interrelation between notions and facts; the problem formulation on the basis of conceptions of certain problematic situations and its possible ways out:

$$NI = \frac{Nf}{Ngen}, \tag{1}$$

where: Nf – factual quantity of the notions and facts learnt; Ngen – general quantity of notions and facts, which a worker should learn in order to fulfill the tasks respectively to the positional instruction of an enterprise.

**The Level of Methods and Procedures Application (MI)** – reflects the competence concerning the application of methods and procedures in the context of the data learnt; the worker's ability to reveal the contents of methods and procedures (the characteristics of method or procedure application conditions; logical subsequence of their application):

$$MI = \frac{Mf}{Mgen}, \tag{2}$$

where: Mf – factual quantity of methods and procedures learnt; Mgen – general quantity of methods and procedures, which should be learnt by the worker in order to complete the tasks respective to a positional instruction of an enterprise.

The action rewards and the level of ability concerning the methods of tasks completion show the possibility of their proper fulfillment with the help of previously received knowledge and experience.

**Action Completion Rewards (Ar)** – reflects the quantity of actual action completion of the worker when fulfilling the tasks posed by one's positional instruction:

$$Ar = \frac{Aa}{Agen}, \quad (3)$$

where: Aa – the quantity of actually completed actions of the worker to fulfill the tasks posed, which are enumerated in one's positional instruction; Agen – the quantity of professional actions necessary for the tasks completion respectively to a positional instruction.

**The Level of Ability to Form Methods and Fulfill the Tasks (Tl)** – reflects the quantity of methods formed for the fulfillment of specific tasks:

$$Tl = \frac{Sm}{Tgen}, \quad (4)$$

where: Sm – the quantity of methods formed to fulfill specific tasks; Tgen – general quantity of tasks, which does not need to form methods.

One more important constituent part of competence evaluation matrix are skills. As it is known, the process of gaining skills depends on the frequency of certain actions and information use. That is why, in the process of counting of the level of adopted skills primary attention should be paid to their successful formation background [4; 11; 12; 15; 19]. One of the most essential backgrounds is a training purposefulness, which presupposes, first of all, precise understanding of the thing, which is meant to be learnt and concentrated on. The next background is being training aware, which means that a worker has to know and understand a final aim of training, realize the operation structure, which are liable to learning. A rational training process development in the course of time is also essential. To develop a skill one needs to train a lot. That is why the frequency of acts has a crucial part in the process.

**Adopted Skill Level (Sl)** – reflects the ratio of the quantity of adopted skills of a worker necessary to fulfill certain tasks respectively to a positional instruction:

$$Sl = \frac{Sq}{Sgen}, \quad (5)$$

where: Sq – the quantity of skills a worker has; Sgen – the quantity of skills a worker is to have according to a positional instruction.

**Responsibility Level (Rl)** – demonstrates the range of worker's responsibility to one's duties:

$$Rl = \frac{Ts}{Tgen}, \quad (6)$$

where: Ts – the quantity of successfully completed tasks; Tgen – general quantity of tasks, which a worker is to fulfill according to a positional instruction.

The responsibility level means a precise process of worker's duties distribution from the very beginning in order to ensure the completion of all the tasks. This

index demands precise definition of duties, responsibilities, forms of reporting according to each level of the process, responsible ones for the completion of the tasks, etc.

**Emotional Intellect Level (El)** – reflects the worker's ability to communicate, realize one's emotions and understand other people's feelings. V. Belkina [14] claims that «the knowledge about emotional intellect is especially applied in the process of business consulting, when we speak about leadership and personnel management».

Nowadays all the tests which define emotional intellect (EQ) are experimental, but there is a possibility to define it without any testing. One need to consider one's character features and behavior in different situations. According to V. Belkina, a person who possesses a high level of EQ can skillfully find a way out of difficult situations, can easily and effectively solve the problems, is kind-hearted and easy-going when communicating, one tries to avoid conflicts, one is confident and independent, can evaluate oneself objectively, etc.

A person who possesses a low level of EQ is often aggressive, conflict, unkind while communicating, is not able to control one's immediate wishes and impulsive reactions, d with one's one is unconfident, unsatisfied with one's life, one does not need any self perfection and does not know what one wants, one can not speak about feelings and does not want to understand other people's feelings. One often feels uncomfortable, sympathetic, has the feeling of guilty/ one is always cold, closed and finds it hard to get on with the staff [14; 20].

Therefore, the development of EQ and in the course of negative emotions allows observing the reason of negative behavior and then evaluate the situation and react to it wisely, in other words to change one's emotional state into a positive one.

**The Level of Creative Decision Making (Cl)** – demonstrates the ability to make creative managerial decisions:

$$Cl = \frac{Dq}{Qgen}, \quad (7)$$

where: Dq – the quantity of creative decisions made by the worker; Qgen – general quantity of decisions made by the worker.

Modern investigations of creativity point to the fact that «the tendency to being creative is not a phenomenon peculiar to a certain people only» [20]. That means that creativity may be developed owing to time consuming training.

According to E. Fromm [14], «creativity is an ability to impress, find out the solutions in nonstandard situations, the direction to something new and the ability to deeply realize one's own experience. The scientist defined the main features of creative thinking, which are the following: productivity – the wealth of ideas,

associations, variants of problem solutions; flexibility – the ability to immediately change the ways of action, easily shift from one object class to another one; originality – rarity, uniqueness, extraordinary ways of problem solving process «орідкисність» [14]. So, creative managerial decision making demands a certain mental talent.

Therefore, the level of creative managerial decision making allows defining the range of a worker's talent, one's ability to demonstrate one's sensitivity to a certain problem solution, and also is independent when solving unexpected issue, which needs an immediate resolution.

**The Level of Implementation of Innovations (II)** – allows defining the quality of author's innovations of enterprise workers. In addition to this, the given index characterizes the appropriateness of innovational implementation of the worker to modern achievements of science and technology, which will facilitate to more effective enterprise functioning:

$$II = \frac{Q}{Q_{gen}}, \quad (8)$$

where: Q – the quantity of innovations offered by a worker; Q<sub>gen</sub> – general quantity of innovations, which are applied in enterprise.

**The Level of Creative Intellect (Ci)** – reflects the ability of a worker to purposefully act, rationally speculate and interact effectively with an environment applying all the knowledge, skills and personal characteristics one possesses. Apart from this, creative intellect is an activity of human which finds itself in an extraordinary completion of a task.

The level of creative intellect allows defining a gift of each worker in the enterprise, one's ingenuity of problem solving, the ability to creatively evaluate the situation that takes place in a certain period [5; 14; 20].

**The Level of Initiative (Lin)** - ensures the fulfillment of tasks with the help of one's own ideas:

$$Lin = \frac{Q_i}{Q_{i\ gen}}, \quad (9)$$

where: Q<sub>i</sub> – the quantity of ideas, which were offered by a worker; Q<sub>i gen</sub> – general quantity of ideas in the enterprise.

According to pedagogical dictionary «initiative is a person's feature, which is characterized by the ability and tendency to act aggressively and independently» [5; 20]. Encyclopedic dictionary covers the notion «initiative» (french «Initiative», from Latin Initium – the beginning) as a beginning, an incentive to the beginning of an affair, the ability to produce new ideas, suggestions and act independently» [5; 20].

S. Rubinshtein [5] defines the notion of initiative as « a large quantity and brightness of new ideas and projects, the rich imagination combined with the intensity of incentives and energy of desires». According to V. Tolochko [16], an initiative is the

existence of a tendency to act confidently and extraordinarily for effective task fulfillment.

Therefore, we may conclude that initiative occurs when a certain task and responsibility for its fulfillment arise. That is why any initiative is directed to an expression of action and independence. So, the determination of a certain worker's initiative level is worth being considered as a correlation of a quantity of ideas offered in the enterprise during a certain period.

**The Level of Rational Activity (Ra)** – allows implementing worker's activity during one's duty fulfillment process:

$$Ra = \frac{Q_o}{Q_{gen}}, \quad (10)$$

where: Q<sub>o</sub> – the quantity of innovative offers suggested by a worker; Q<sub>gen</sub> – general quantity of innovative offers suggested in the enterprise.

First of all, an innovative activity should be considered as a conscious activity of a worker's mind, the worker's ability to immediately demonstrate all knowledge and personal characteristics in terms of a certain situation in the enterprise.

The list of competence evaluation indices given in the table 1 is not exhaustive and may be changed (shortened or completed) because of the changes which may take place in a worker's positional instruction, and also when the change of a position or a working place has been made. It should be noted that given competence evaluation indices may be applied not only for theoretical research, but also in practice in order to improve the efficiency of enterprise through the imperfection of worker's competence.

## CONCLUSIONS

The given competence evaluation indices may be applied not only for theoretical research, but also in practice in order to improve the efficiency of enterprise through the imperfection of worker's competence and it may solve different problems concerning the development of worker's competence level which will influence the level of enterprise work efficiency. Apart from this, an elaborated matrix will help the authorities receive more precise image of workers' competence state in enterprise, and also elaborate certain measures concerning the improvement and development of worker's competence.

## References

1. **Afanasiev M.V., Gontareva I.V. and Tyshenko O.D. 2010.** Training to the forming competencies of Business Economics. – Kharkiv: "INZHEK". **Ukraine.**
2. **Balabanova L.V. and Stelmashenko O.V. 2010.** Strategic Personnel Management in Enterprise under Market Economy [Text]: monograph; The Ministry of Science and Education of Ukraine, Donetsk nat.Univ. of



- Economics and Trade named after Mychayli Tuhan-Baranovsky. **Ukraine**.
3. **Burkova L.V. 2010.** Indices and Evaluation Criteria of Professional Competence of Future Specialists of Socionomics Professions/ [Electronic resource]. – Access address: [http://www.nbu.gov.ua/e-journals/ttmuo/2010\\_3/10burssp.pdf](http://www.nbu.gov.ua/e-journals/ttmuo/2010_3/10burssp.pdf). **Ukraine**.
  4. **Eicker S., Kochbeck J. and M. Schuler P. 2008.** Employee Competencies for Business Process Management. Springer-Verlag Berlin Heidelberg, 251–262. [Electronic resource]. – Access address: [http://www.softc.wiwi.uni-due.de/uploads/tx\\_itochair3/publications/EmployeeCompetenciesForBusinessProcessManagement\\_04.pdf](http://www.softc.wiwi.uni-due.de/uploads/tx_itochair3/publications/EmployeeCompetenciesForBusinessProcessManagement_04.pdf). **USA**.
  5. **Goydosh N. 2012.** The Entity of a Notion «initiative» in Psychological-pedagogical literature [Electronic resource]. – Access address: [http://www.nbu.gov.ua/portal/soc\\_gum/gvpkhdp/2012\\_24/78\\_83.pdf](http://www.nbu.gov.ua/portal/soc_gum/gvpkhdp/2012_24/78_83.pdf). **Ukraine**.
  6. **Gruzina I.A. 2011.** The Improvement of Evaluation of Personnel's Competence in Enterprise. [Electronic resource]. – Access address. **Ukraine**.
  7. **Zvarych I.M. 2012.** Theoretical and methodological basis for the assessment of the pedagogical competence the teachers of USA. – Kyiv: Fenics. **Ukraine**.
  8. **Khmil F.I. 2006.** The management. – Kyiv: Akademvudav. **Ukraine**.
  9. **Kostyn Yu.D. and Ushchapovsky K.V. 2010.** An Evaluation Model of Personnel Work Efficiency at Energy Enterprises / [Electronic resource]. – Access address: [http://www.nbu.gov.ua/portal/soc\\_gum/eprom/2010\\_51/st\\_51\\_15.pdf](http://www.nbu.gov.ua/portal/soc_gum/eprom/2010_51/st_51_15.pdf). **Ukraine**.
  10. **Kuzmin O.Ye., Melnyk O.H., Shpak N.O. and Mukan O.V. 2012.** The concept of creation and use of the polycriterial diagnostics systems of enterprise activity. – ECONTECHMOD: An international quarterly journal on economics in technology, new technologies and modeling processes №4. – Lublin-Cracow. **Poland**.
  11. **Minter, R. L. and Thomas, E. G. 2000.** Employee development through coaching, mentoring and counseling: A multidimensional approach. *Review of Business*, 21(1/2): 43-47. **USA**.
  12. **Noe R. A. 2002.** *USA Employee training and development*, (2nd ed.). New York: McGraw-Hill Irwin.
  13. **Oleksiv I. and Shpak N. 2012.** Method for Selection of Company Stakeholders. – ECONTECHMOD: An international quarterly journal on economics in technology, new technologies and modeling processes №3. – Lublin-Cracow. **Poland**.
  14. **Paliy A.A. 2010.** The Differential Psychology / [Electronic resource]. – Access address: [http://pidruchniki.ws/11221213/psihologiya/osnovni\\_kontseptualni\\_pidhodi\\_kreativnosti](http://pidruchniki.ws/11221213/psihologiya/osnovni_kontseptualni_pidhodi_kreativnosti). **Ukraine**.
  15. **Pfeffer J. 1981.** *Power in Organizations*, Marshfield, MA: Pitman. **USA**.
  16. **Tolochko V.M. 2010.** The management of the employees of the pharmaceutical organizations based on competencies. – Kharkiv: Avysta-CLT. **Ukraine**.
  17. **Teodorescu Tina. 2006.** COMPETENCE VERSUS COMPETENCY [Electronic resource]. – Access address: <http://rescomp.de/resources/competence-vs-competency-the-differencespub.pdf>
  18. **Saaty T.L. 1980.** *The Analytic Hierarchy Process: Planning, Priority Setting, Resource Allocation*, New York: McGraw-Hill International Book Co. **USA**.
  19. **Sveiby Karl Erik. 2001.** Measuring Competence [Electronic resource]. – Access address: <http://www.sveiby.com/articles/MeasureCompetence.html>
  20. **Venda V.F. 2010.** Intellectual Initiative and Child's Intellect Level [Electronic resource]. – Access address: <http://ua.textreferat.com/referat-13166-1.html>. **Russia**.