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ASSESSMENT OF GOVERNMENTAL BODIES OFFICIALS ACTIVITY RESULTS BASED ON FACTOR MODEL DEVELOPMENT

Lead. The article demonstrates a factor model of due performance of all norms and rules by officials in a governmental body. It singularizes the following basic indices of the factor model: index of official's adherence to rules and norms and performance of them; index of adherence to rules and norms and performance of them during inspection in a governmental body by an employee of an organization, performing the inspection; index of safety of governmental bodies, covering the whole of statistic reporting regarding violations of this governmental body. It substantiates the opportunity of using the factor model for assessment of governmental officials' activity results.

Keywords. Governmental bodies, assessment of officials' activity results, factor model, official's adherence to rules and norms and performance of them, level of knowledge, level of violations.

Previous research. The issues of assessing governmental officials' activity were considered in the works of S. D. Dubenko [2], V. Ya. Malynovskyi [4], N. R. Nyzhnyk, O. V. Sliusarenko [9] and other prominent academicians. However, the issues of improving the governmental officials' activity results assessment system remained unexplored. Improvement and ordination of governmental service requires assessment of efficiency and effectiveness of a governmental official's professional activity.

Research objective and tasks. While improving personnel security in the governmental sphere, we should realize that to achieve the best effect it is necessary not only to detect a problem and find its solution, but also to systematize and reflect the principle of processes change. The objective is to singularize factors for assessing governmental officials' activity results and developing the factor model. This will allow detecting periodically recurrent threats. In this case, there is a chance to develop a threat fighting program.

Basic research materials. The society is interested in provision of quality governmental services, expects professional and efficient activity of governmental officials, irrespective of political influences or beliefs. Therefore, governmental officials assessment must be an important tool for assuring objective control over the results of authorities' actions, raising demands regarding assurance of clear connection between planned activity of the government, authorities and governmental officials.

The most efficient method that allows future assessing change in a resulting exponent while assuring personnel security of governmental bodies is development of factor model. Creation of this model will allow governmental bodies conducting deeper analysis and monitoring in the sphere of personnel security. The process of personnel security assurance in the governmental sphere is influenced by quite a many factors [2, 7, 8]. And every process must be improved over time.

An important factor in every improvement process is its persistence. The process of change in activity, depending on several factors, will always have a graph of parabolic curve for most objects and subjects. This is explained by human nature (for instance, a wish to get higher returns

with lower investments, peculiar to human beings) [1, 6].

The governmental bodies search for ways of improving supervision and monitoring process, and the officials – on the contrary – search for more refined ways to escape responsibility for illegal actions (at this, funds for eliminating real problem are always unavailable) [3, 5, 6].

The modeling is beneficial through the chance of constant analysis of change in both resulting exponent of personnel security and internal factors in depends on. Owing to the correctly developed model, there arises a chance of not only finding a reason why the problem occurred, but also, with account of factors interconnection, detecting a way of problem solution.

In should be mentioned that the built model will reflect the most important processes, and be a basis for assessing potential threats. To create a model that will further assist to its efficient performance, certain conditions should be met:

– adherence to rules and norms by the employees of corresponding governmental bodies;

– high level of knowledge of governmental employees and high quality of work, performed by them;

– consideration of all important impact factors.

Thus, the factor model may be shown in a following way:

$$Y_{kb} = X_1 \times X_2 \times X_3, \qquad (1)$$

where Y_{kb} is an index of due adherence to all norms and rules in a governmental body. The higher is the index, the lower is the level of violations in a governmental body; X_1 – index of an official's adherence to rules and norms and performance of them; X_2 – index of adherence to rules and norms and performance of them during inspection in a governmental body by an employee of an organization, performing the inspection; X_3 – index of safety of governmental bodies, covering the whole of statistic reporting regarding violations of this governmental body.

The considered factor model belongs to a multiplicative models type. Further research requires description of a process and degree of each factor's impact on a resulting exponent.

The first factor is the index of official's adherence to rules and norms of a certain division and performance of them. This index is estimated as a ratio of the level of knowledge ($P_з$) of the given employee to the level of violations (P_n), committed by this employee:

$$X_1 = P_з / P_n. \qquad (2)$$

The level of knowledge will be expressed in percent and is estimated on the basis of results of annual testing of all employees that must be conducted in governmental bodies. The highest score is 100 %. The lowest allowed limit for employee's admittance to work – 50 %. This will define the limits for the first index.

Level of violations is a ratio of the amount of norms and rules, violated by the official (according to regulatory documents) to the total amount of norms and rules the official is to adhere to on his/her position. Therefore, the described exponent will look as follows:

$$P_n = \begin{cases} \dfrac{\alpha}{\sum\limits_{n=1}^{i} n} \times 100\%, \text{ with } \alpha < \sum\limits_{n=1}^{i} n, \quad \alpha \neq \sum\limits_{n=1}^{i} n. \\ 100\%, \quad \text{with } \alpha \to \sum\limits_{n=1}^{i} n, \end{cases} \qquad (3)$$

where a is an amount of rules and norms, violated by the official of governmental division; $\sum\limits_{n=1}^{i} n$ is a general amount of norms and rules, fixed in documents, the official is obliged to perform; P_n is a level of violations, committed by one employee.

It should be mentioned that, with account of this formula, a range of conditions must be met:

– $a < \sum\limits_{n=1}^{i} n$ – this condition cannot be violated due to a fact that an official cannot violate more rules than the amount included to regulatory documents;

– $a \neq \sum\limits_{n=1}^{i} n$ – violation of this condition will lead to absolute non-performance of all norms and rules by one official;

– $a \to \sum_{n=1}^{i} n$ – the situation is unfavorable due to systematic official's non-adherence to the prescribed norms and rules;

– $P_n \to 100\ \%$ – in case of official's non-performance of the rules. The lower is the exponent's value, the higher are the consciousness and level of responsibility of a separate official.

Now, when we know how the level of violations and level of knowledge are changed, we may draw a function graph for the index of adherence to norms and rules. It should be mentioned that while building a graph, we are governed by the following principle. Irrespective of dependence between the level of knowledge and the level of violations, there is no direct proportionate dependence between the values. Therefore, for the graphic interpretation an important condition is consideration of allowances.

Another important thing is that the graph will be represented as an equiangular hyperbole with y = a / x asymptotes. However, with account of reference axes characteristics (all exponents are shown in percent measurement), it is impossible to use a part of graph below the reference axis.

We should mention that the function graph, provided on Fig. 1, is a perfect model – that is, the graph provides directly proportionate dependence between the level of education and the level of violations by the employee of governmental division. However, in practice there are situations when this dependence is broken. Therefore, it is reasonable to singularize five basic situations for analysis of the activity of division's employee that confirm this.

For the interpretation purposes, it is reasonable to use a regular coordinate grid, where reference axes will be identical to axes on Fig. 1.

The next step is graphic presentation of basic situations during the analysis of activity of the division's employee, shown on Fig. 2.

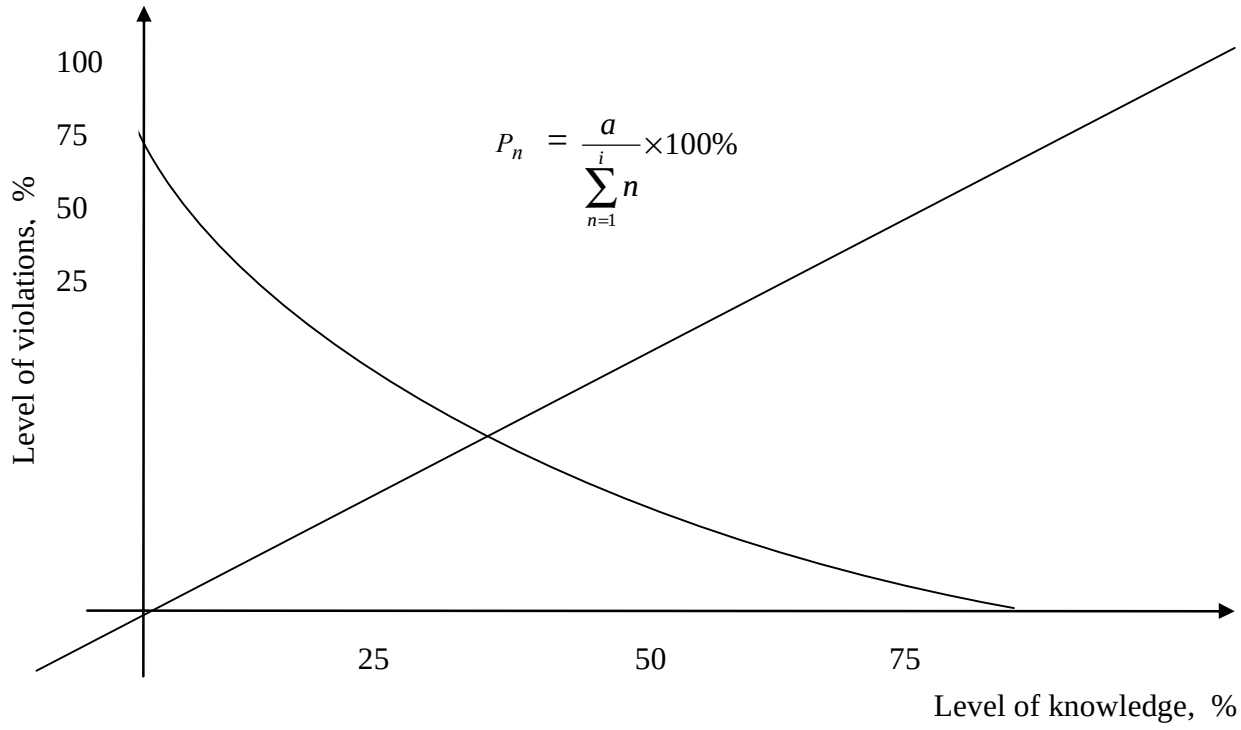

Fig. 1. Graphic presentation of function for the index of official's adherence to rules and norms and performance of them

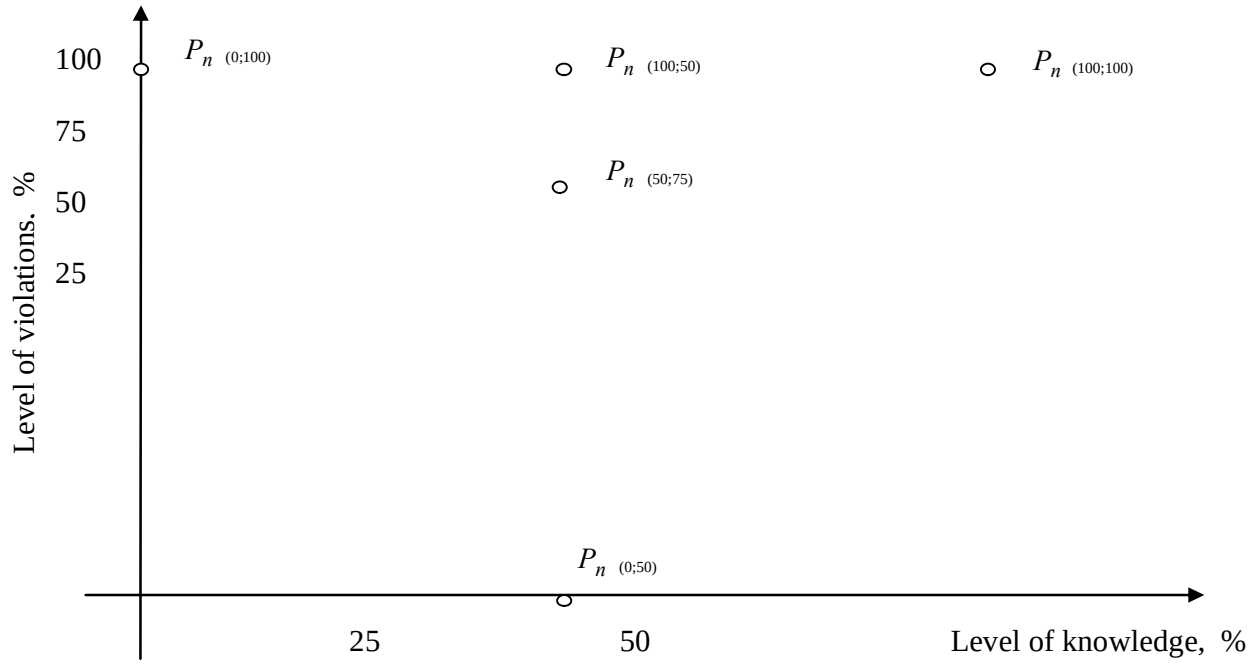

Fig. 2. Graphic presentation of basic situations during analysis of activity of the division's employee

1. Point $P_{n\ (0;100)}$ characterizes a situation of maximum knowledge, by the employee of the governmental body, of the norms, rules and processes, at which the level of violations is close to zero. The considered situation is actually a component of an ideal model, i.e. the higher is the level of development, the lower is the percent of violations.

2. Point $P_{n\ (100;100)}$ reflects a situation when employee, having obtained a maximum score in testing, makes absolutely all violations on his/her position. Such situation is theoretically possible in the following cases: there were technical mistakes during the testing process; or the control event was performed by a non-qualified employee. In practice, the chance that this situation will emerge is close to zero.

3. Point $P_{n\ (50;75)}$ characterizes medium percent of the level of knowledge and certain amount of violations. Such situation is peculiar to everyday practice, is graphically presented on fig. 1, and is a part of function.

4. Point $P_{n\ (0;50)}$ is characterized by absence of mistakes in service of an official with minimum level of knowledge. This situation looks absurd as it makes the very process of education and training questionable. However, a probability of occurrence of such situations in practice will state on mistakes in the assessment system, i.e. failures during the testing process or inadequate assessment by an expert.

5. Point $P_{n\ (100;50)}$ interprets a situation when an employee with a minimum level of knowledge will make maximum amount of violations in his/her service.

Another factor, influencing the index of due adherence to norms and rules, is an index of adherence to rules and norms and performance of them during inspection in a governmental body by an employee of an organization, performing the inspection.

This index is highly important. This is so, because the level of an inspector's education and his/her ability to conduct certain activity stipulate the level, to which certain divisions of governmental bodies would allow themselves not to adhere to rules and norms, defined in regulatory documents. Besides, equally important is adherence to certain level of security in conduction of this activity type.

To estimate the index of adherence to rules and norms and performance of them

during the inspection in governmental body by the employee of the organization, performing this inspection, is possible on the basis of correlation of the level of knowledge ($P_з$) of the employee of the organization, performing the inspection, and level of detection of crimes ($P_{рз}$), allowed by the division of governmental body:

$$K_{дв} = \frac{P_з}{P_{рз}}. \qquad (2)$$

The level of knowledge of employees of the organization, performing inspection, is shown in percent measurement and estimated depending on the results of monthly testing for all officials, conducted in the organization, performing the assessment). It should be mentioned that periodicity of testing of governmental officials is lower, as for this testing the necessary condition is separation from major activity for at least one day. The maximum limit value during the testing is 100 %, and minimum limit value for an employee to be admitted to work, is 50 %.

The level of detection is a ratio of the amount of norms and rules, not adhered to by the official of governmental division, according to regulatory documents, to the total amount of norms and rules the officials must adhere to in the governmental division. In mathematical terms, this exponent will look as follows:

$$P_{рз} = \begin{cases} \dfrac{\beta}{\sum\limits_{n=1}^{i} НП_n} \times 100\%, \text{ with } \beta \le \sum\limits_{n=1}^{i} НП_n, \beta \ne \sum\limits_{n=1}^{i} НП_n \\ \\ 100\%, \qquad \beta \equiv \sum\limits_{n=1}^{i} НП_n. \end{cases} \qquad (3)$$

where b is the amount of norms and rules, non-performed by official of governmental division; $\sum\limits_{n=1}^{i} НП_n$ is the total amount of norms and rules (n=1…i), fixed in documents, the official of governmental division is obliged to perform.

The realization of equation system provides for the following conditions:

– $b \le \sum\limits_{n=1}^{i} НП_n$ – provides for impossibility for the violations amount to exceed the amount in regulatory documents. Therefore, the opportunity of violations repetition is rejected.

– $b \ne \sum\limits_{n=1}^{i} НП_n$ – violation of this condition will prove absolute governmental official's non-performance of all norms and rules;

– $b \to \sum\limits_{n=1}^{i} НП_n$ – states on increase in violation of norms and rules by the official of governmental division;

In case of non-adherence to norms and rules in the governmental division, $P_{рз} \to 100\,\%$. Thus, the lower is the value of explored index, the better are the adherence to current legislation in the governmental division and the higher is the level of division's personnel security.

Similarly to the first case, the next stage is graphic presentation of exponent's function and coordinate grid for the index of adherence to norms and rules and performance of them during inspection in the governmental body by the employee of the organization, performing the inspection.

The function graph (Fig. 3) states that irrespective of direct dependence between the level of knowledge of the employee, performing the inspection, and the level of fixed violations, the dependence cannot be called proportionate.

– $P_{рз\,(0;50)}$, $P_{рз\,(50;75)}$, та $P_{рз\,(100;100)}$ is a obvious interpretation of direct dependence of the explored index;

– $P_{рз\,(100;50)}$ та $P_{рз\,(0;100)}$ point to atypical situations of research, and namely a low level of knowledge and excellent work during the inspection and extremely high level of knowledge with absence of detected crimes.

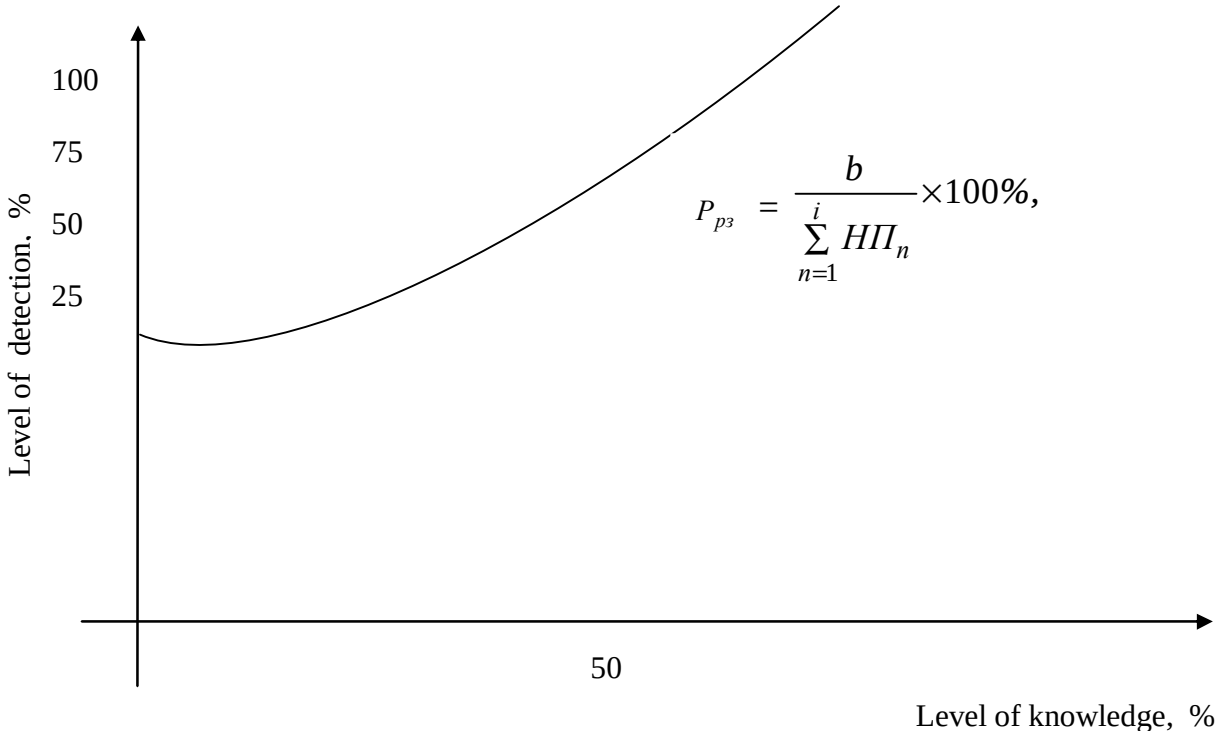

Fig. 3. Graphic presentation of function of the index of adherence to rules and norms and performance of them during the inspection in the governmental body, by the employee of the organization, performing the inspection

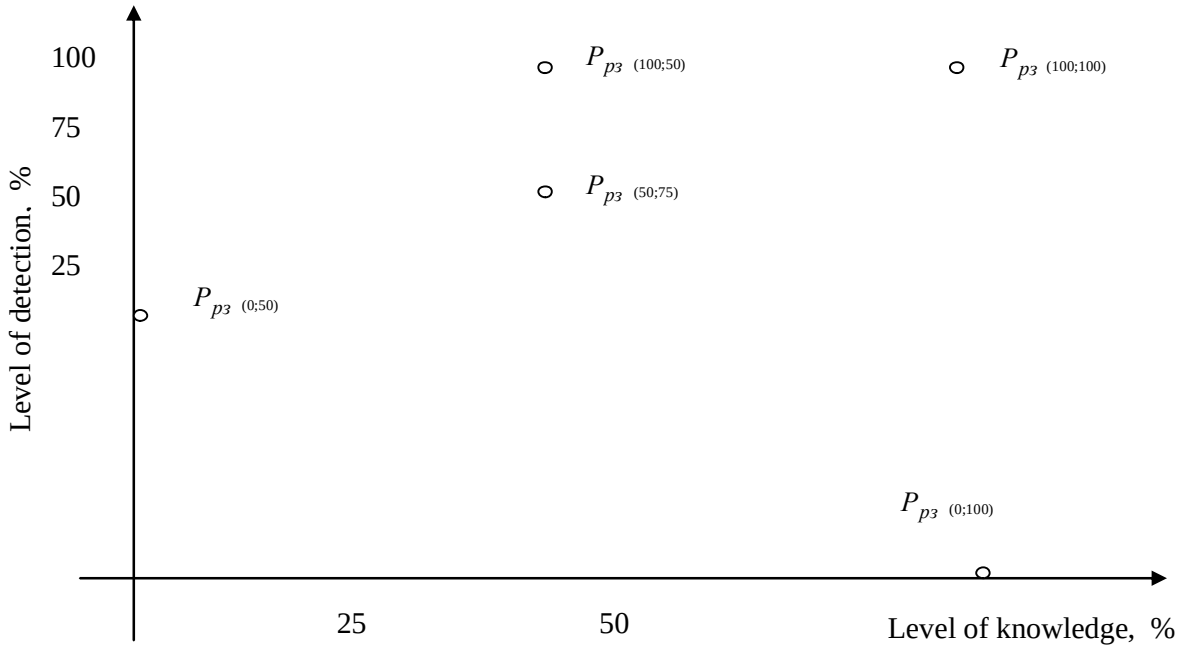

Fig. 4. Graphic presentation of basic situations of adherence to rules and norms and performance of them during the inspection in the governmental body, by the employee of the organization, performing the inspection

In analogy to the previous exponent, the following points should be singularized:

The third explored factor during the model development is an index of safety of governmental bodies covering the whole of statistic reporting regarding violations of this governmental body.

As of today, this exponent cannot be estimated due to lack of real and generally

available statistical data regarding violations of governmental bodies. However, it is possible to create the corresponding database.

From the theoretical point of view, this value will include a range of the following exponents:

– amount of violations in the course of all inspections for the calendar year (K_{np});

– amount of inspections of specific division of governmental body for the calendar year ($П_к$);

– average percent of conducted testing of specific division of a governmental body for the calendar year ($\overline{m}$).

Therefore, in mathematical terms the index of safety of governmental bodies covering the whole of statistic reporting regarding violations of this governmental body ($K_б$) will look as follows:

$$K_б = \overline{m} \times (\frac{П_к}{K_{np}}) . \qquad (4)$$

Due to lack of specialized subdivision on systematization of statistical information on violations in governmental bodies, the researched model may be applied in practice without consideration of the third exponent.

Conclusions. Application of the considered factor model will allow performing efficient monitoring to every division of governmental bodies and organizations that will perform inspection of their activity. Presence of the explored factors inside the model points to the fact that the process of control is quite multisided and numerous objects and subjects are its participants. Further research regarding the index of safety is extremely important as it will be helpful not only for deeper analysis, but also favorable for increasing efficiency of work of governmental divisions. It should also be mentioned that the explored factor model will allow making detailed analysis during emergence of problems, related to personnel security of governmental bodies.

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