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EVALUATION OF THE INTELLECTUAL POTENTIAL MANAGEMENT EFFICIENCY USING GRAPH-ANALYTIC METHODS

Current economic relations determined by global processes of increased competition, move to the era of total information extension, comprehensive technology development etc. demand new effective ways of running business. First of all this concerns to intellectual potential as an important source of creating sustainable competitive advantages in a changing market environment.

The issue of intellectual potential management in its various forms is studied in theoretical papers and applied research of B. Lev, T. Stewart, J. Barney, R. Hall, L. Edvinson, K.-E. Sveiby, J. Roos, O O. Butnik-Sivers'kyj, O. Kendiukhov, A. Kozyriev, H. Shvydanenko, L Lukychova, A. Chukhno, V. Heiets and others.

The effective management of the intellectual potential at all stages of its reproduction forms the basis for long-term prosperity of the company. To evaluate the efficiency of this process the adapted graph-analytical model can be used. This model helps to determine the effectiveness of management by structural elements of intellectual resources, to explore the impact of the intellectual potential to the business operation, to assess the level of balance in the use and development of intellectual potential and to define the goals and directions for improving managerial process.

The author proposes to visualize the graph-analytic model in the form of a tetrahedron, base of which is made of vectors reflecting the structural elements of the intellectual potential (human, organizational and relational resources), and height – of a vector characterizing whole company's activity (figure 1). The technique of designing the model is based on comparative rating estimate and includes next stages:

- listing the criteria for comparison within every direction;
- rating companies according to the achieved results from 1 to n;

- summing points for the companies by each vector;
- transforming sums into vector lengths using interpolation.
- designing a tetrahedron based on previous calculations.

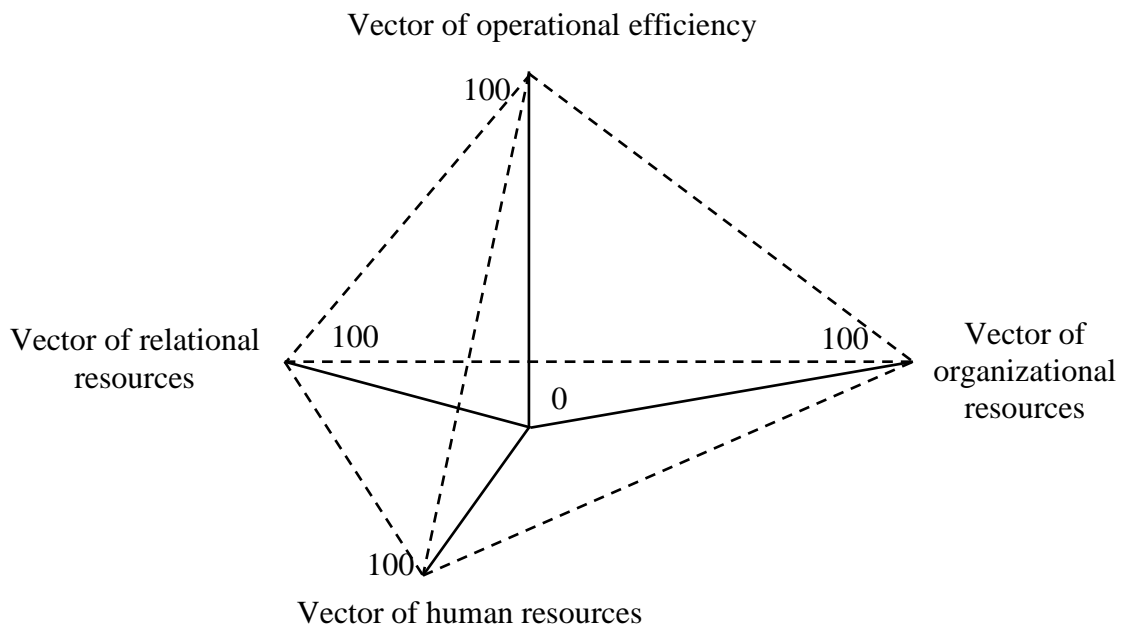


Figure. 1. Tetrahedron of intellectual potential

To select most suitable indicator for vectors calculation balancing opposite goals (getting maximum results from study carrying minimum expenses) special principles should be taken into consideration. These principles are: reflecting of the diagnostics targets, quantitative form of the indices, list limitation, relationship of cause and effect, equilibrium, economical efficiency.

The author suggests the list of possible criteria that represent the managerial efficiency of every direction of the model and are transformed into appropriate vector lengths.

The efficiency of intellectual potential management of human resources can be defined by such indicators: labour productivity, increase of labour productivity, employee turnover, time for learning (for example, hours of trainings per employee), average expenses for learning, average wage, share of employees involved in learning process, employer rating etc.

For analysis of the efficiency of intellectual potential management of organizational resources next criteria can be used: share of intangibles according to the assets, corporate culture, brand, image (reputation), coefficient of administrative

expenses, possession of specific resources, automation of business activity (share of hand labour), R&D and innovations (annual number of novelties, launched projects).

Diagnostics of the efficiency of intellectual potential management of relational resources can be based on such indicators as market share, average revenue per client, number of new products / services, increase of client base, consumer satisfaction, coefficient of sales expenses, measures of social responsibility, relations with authorities, relations with suppliers (for example, number of tenders).

Finally, the vector, reflecting total performance efficiency, level of potential realization and integration of all its parts can be estimated by profit (absolute value), return on assets, income increase, EBITDA change, assets increase, EVA.

Therefore, the research carried improvements to the methods and technique used for evaluation the efficiency of the intellectual potential management based on application of the adapted graph-analytic model.

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