

УПРАВЛІННЯ ПІДПРИЄМСТВОМ

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METHODOLOGICAL APPROACH TO DESIGN THE ORGANIZATIONAL DEVELOPMENT EVALUATION SYSTEM

МЕТОДИЧНИЙ ПІДХІД ДО ПОБУДОВИ СИСТЕМИ ОЦІНКИ ОРГАНІЗАЦІЙНОГО РОЗВИТКУ ПІДПРИЄМСТВА

Urgency of the research. The Ukrainian enterprises are forced to be innovative or at least more reactive to the exogenous changes, and despite of all financial problems to be interested in effective change tools.

Target setting. The main market challenges have been solved already by European players and companies in USA and now they are in a focus of the Ukrainian enterprises. Though the European or US market conditions differ from Ukrainian, there is obvious need for the modern practice and techniques to be considered, evaluated by their applicability and implemented into reality.

Actual scientific researches and issues analysis. The previous studies in the field of organizational development are presented by the papers of such experts and scientists as Aldrich H., Armenakis A., Bedeian A., Christensen C., Hannan M. and Freeman J., Quinn R. and Cameron K., Mintzberg G., Scherbina V., Plotinsky Y., Van de Ven A. and Poole M. and many others.

Uninvestigated parts of general matters defining. There is still a need for comprehensive and applicable toolbox for the organizational development at the enterprise level, which will allow evaluating of the enterprise evolution and, as a consequence, will make the organizational change management possible.

The research objective. The paper aims to synthesize the findings in the previous studies in the sphere of organizational changes and development to construct the comprehensive framework to evaluate the enterprise development.

The statement of basic materials. Our assumptions about the organizational development we present as three-pillar model: material resources dynamics, non-material resources dynamic and structure changes. The proposed model synthesizes the approaches to estimate the changes in different fields of organizational studies, but at the same time it's optional and can be modified by implementation of the various indexes.

Conclusions. As a result of dependencies analysis we may conclude, that service period of the equipment influence significantly on the development rate of the enterprise, human resources dynamics evaluation can be another significant factor which increase or decrease effectiveness of organizational changes and structure redesign is one of the precondition of the long-run strategy for the change.

Keywords: organizational development; evaluation; growth; development; performance index.

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Актуальність теми дослідження. Підприємства України змушені бути інноваційними, чи щонайменш швидко реагувати на зовнішні потрясіння, а отже бути зацікавленими у надійному та ефективному інструментарію з організаційних змін.

Постановка проблеми. Основні виклики, які знаходяться у фокусі уваги українських підприємств, вже вирішені компаніями та фірмами Європи та США. Хоча умови Європейського ринку чи ринку США відрізняються від вітчизняних, існує очевидна потреба у оцінці сучасних тенденцій та методик на предмет їх застосування у вітчизняній практиці.

Аналіз останніх досліджень і публікацій. Основу дослідження склали роботи таких вчених як Алдріха Г., Арменакіса А., Бедіана А., Крістенсена К., Ханана М. та Фрімена Дж., Куїна Р. та Камерона К., Мінцберга Г., Плотинського Ю., Ван де Вена А., Пуля М., Щербіної В. та багатьох інших.

Виділення недосліджених частин загальної проблеми. Існує потреба у побудові зрозумілого та реалістичного інструментарію з організаційного розвитку на підприємстві, який дозволить оцінити еволюцію підприємства та зробить можливим управління змінами.

Постановка завдання. Мета статті – синтезувати знахідки та результати попередніх досліджень у сфері організаційних змін та розвитку аби побудувати рамочну концепцію оцінки розвитку підприємства.

Виклад основного матеріалу. Наші допущення про організаційний розвиток представлені як трьохкомпонентна модель: оцінка динаміки матеріальних ресурсів, людських ресурсів та оцінка організаційної структури. Запропонована модель – синтезує існуючі підходи із авторськими пропозиціями та доповненнями, і в той же час є опціональною та відкритою до модифікацій.

Висновки. В результаті аналізу залежностей ми можемо стверджувати, що період служби обладнання має значний вплив на рівень розвитку підприємства, оцінка людських ресурсів може стати ще одним значним фактором, який збільшує або зменшує ефективність організаційних змін, а структурна перебудова є однією із передумов для довготривалої стратегії організаційних змін.

Ключові слова: організаційний розвиток; оцінка; зростання; розвиток; показники ефективності.

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Urgency of the research. The organizational changes are unavoidable under conditions of the rapid market dynamics of present times, especially when the market uncertainty is catalyzed by institutional transformations in Ukraine. The Ukrainian enterprises are forced to be innovative or at least more reactive to the exogenous changes, and despite of all financial problems are interested in effective change tools.

Target setting. The academic literature in a sphere of organizational change, strategic management and leadership present a lot of findings and discoveries which are remain invisible for the practitioners in Ukraine. The main challenges that now are in a focus of the Ukrainian enterprises have been solved already by European players and companies in USA. Though the European or US market conditions differ from Ukrainian, there is obvious need for the modern practice and techniques to be considered, evaluated by their applicability and implemented into reality.

Actual scientific researches and issues analysis. The previous studies in the field of organizational development are presented by the papers of such experts and scientists as Aldrich H., Armenakis A., Bedeian A., Christensen C., Hannan M. and Freeman J., Quinn R. and Cameron K., Mintzberg G., Scherbina V. and Popova Y., Plotinsky Y., Van de Ven A. and Poole M. and many others. Given synthesis is concentrated mostly on the works of Hannan M., Freeman J., Quinn R., Cameron K. and Mintzberg G., nevertheless other scientists' findings were considered properly.

Uninvestigated parts of general matters defining. There is still a need for comprehensive and applicable tool-box for the organizational development at the enterprise level, which will allow evaluating of the enterprise evolution and, as a consequence, will make the organizational change management possible.

The research objective. The paper aims to synthesize the findings in the previous studies in the sphere of organizational changes and development to construct the comprehensive framework to evaluate the enterprise development.

The statement of the basic materials. In opinions of many experts and academic scholars, the performance of any market players is hard to be estimated in one or two integral indexes, the whole system of interrelated and interconnected indicators is needed. However, some certain specifics of enterprise development can be well evaluated by analyzing the criteria selection. These criteria should describe fully the processes, which are the most essential for the development of an enterprise. Thus the profitability growth is universally recognized as the indicator of capabilities of the enterprise to accumulate and create resources for the current functioning and further development. That's why the profitability growth can be identified as development growth of the enterprise. As well as it is true for the non-material resources which are essential for the development, the growth in human resources of the enterprises, core competences, reputation or goodwill do matter as well. This research considers enterprise development as positive changes of its activities, and as the consequences – the positive changes of the main indicators of commercial activities, competitiveness, brand loyalty etc.

Our assumptions about the organizational development we may put in following way – the organizational development is the process of positive changes which can be identified in material resources dynamics, non-material resources dynamic and structure changes (structure we assume as a system of links between material and non-material elements). As far as this assumption is taken as initial for our research, we build the evaluation system as a three-pillar system of evaluation.

First pillar of evaluation system is presented by **material resources dynamics**. This will be the first sphere of our analysis and modeling, which is based on the methodology offered by Vojcehovskij [2]. Therein under the following indexes are analyzed to reveal their impact on growth rate of the enterprise:

- K_{ps} – the share of profit surplus (the share that enterprise invests back into the growth of capital assets);
- ARR – the accounting rate of return for investments;
- P_s – the period of service of capital assets.

There are no doubts that the increase of the first two parameters leads to the intensification of the enterprise development and improvement of its competitiveness. The period of capital assets service has more complex impact on the organizational development. They influence on current and accumu-

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lative profit, the size of depreciation charges which plays the role of the source of internal investment funds at the enterprise. Though the increase of the service period of the equipment lead to vice versa interrelation: profit increases when the depreciation flow drops.

The model is based on the presumptions:

- capital assets replenishment take place due to depreciation charges;
- parameters K_{ps} , ARR and P_s do not change in time (in this case the development growth is constant, which gives the opportunity to analyze the influence of other parameters);
- the production process as a system consists of several subsystems, number of which is equal to the years of equipment service;
- initial deterioration of capital assets is different: for the first subsystem equipment can be used for one year, for the second – two years and so on.

On the basis of these presumptions the production process is modeled as follows: depreciation and profit, accumulated by enterprise in first year, are invested into new equipment instead of those which is out in the first subsystem, next year the capital assets are accumulating for the second subsystem modernization and so on. Under these conditions the value of capital assets grows, as well as profit. As we assume that enterprise keeps profitability to be constant (ARR is constant), then the procedure of capital assets replacement can be described as it is showed in formula 1):

$$F_i = (K_{ps} \cdot ARR + \frac{1}{T_s})(F_{i-1} + F_{i-2}), \quad i=2,3,\dots \tag{1}$$

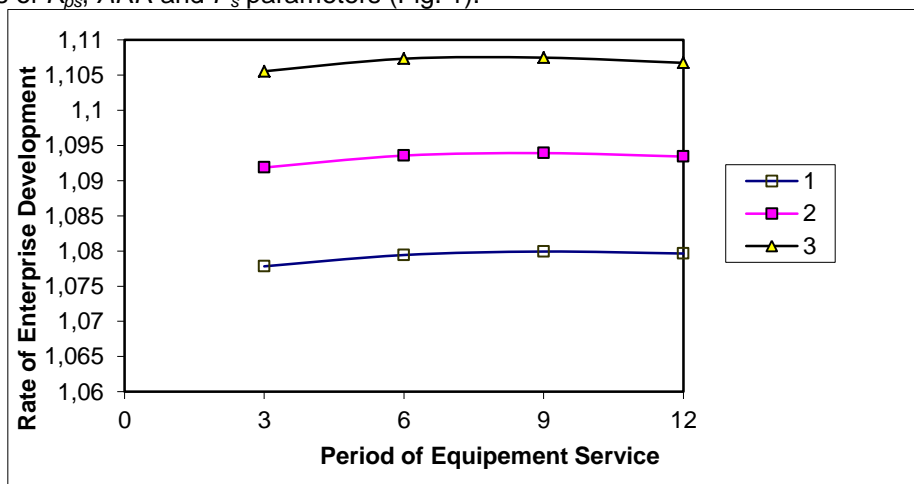
where F – value of capital assets, in money terms.

Thereby the value of input funds is determined by those assets that are accumulated in the previous period.

If we assume that profit is proportional to the value of functioning capital assets, then to determine the profit growth it is necessary and sufficient to analyze the dynamics of capital assets change. The assets growth rate η can be estimated as it is presented below (see formula 2):

$$\eta_{i+1} = (K_{ps} \cdot ARR + \frac{1}{T_s})(1 + \frac{1}{\eta_i}). \tag{2}$$

Failing the general analytical solution of the high-degree equations there are no formulas for explicit link between K_{ps} , ARR and P_s parameters. That’s why the concrete solutions can be found approximately. Using the formula 2 it is possible to define annual development rate of the enterprise under the certain values of K_{ps} , ARR and P_s parameters (Fig. 1).



1 – if $K_{ps}ARR = 0,07$, 2 – if $K_{ps}ARR = 0,06$ 3 – if $K_{ps}ARR = 0,05$

Fig. 1. Dependence Curve of Development Growth Rate – Period of Service

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As a result of dependencies analysis we may conclude, that

- service period of the capital assets (e.g. equipment) influence significantly on the development rate of the enterprise, and up to certain value it is direct dependence, since certain value – it is inverse dependence;

- if the $K_{ps}ARR$ increases, the development rate grows at the enterprise.

The second pillar of the enterprise development evaluation framework is based on non-material resources analysis. Hereby we should emphasize that we select only one type of the resources to analyze, - human resources analysis in our case. Though different types of tacit resources are classified in wider prospect. For instance, the core competences analysis can be done to reach the research aim. The contributions of Edith Penrouse into the resource-based view on the development of firm is hard to overestimate [6; 9], according to Resource-based view the main goal of the organization is sustainable super-profits comparatively to competitors, but at the same time every firm has unique and unequal combination of the resources that are perceived as competences and abilities. Actually the sources of the enterprise development are the competences that bring the sustainable competitive position; they are immobile, specific and are the sources of added value.

Brining the competences into the analysis field, besides the technology or equipment (as it is analyzed above), we offer analytical tool-box for the **analysis of human resources dynamics**.

We propose the indicators system that consists of qualitative and quantitative performance indexes, such as:

- Quantity of the personnel (in absolute and growth rate). We assume that the more innovative and developed enterprise becomes the bigger number of employees it attracts.

- Employee turnover (in percentage and in dynamic). We assume that if enterprise develops it may lose the most impatient personnel, so the oscillations in turnover should be analyzed in correspondence with the structural changes dynamics. At the same time if turnover coefficient is high constantly it means that enterprise failed to bring the sustainability into the workplaces, and it can be a symptom of the crises. We assume that the quantity of the project per one person would increase in money terms as enterprise develops; at the same time that turnover coefficient drops.

- The quality of innovative project (accomplished) per one employee. This index can be in numbers of projects, but it's better to compare the dynamics of projects quantity and their value, so we offer to compare the dynamics in money terms and absolute numbers.

- Minimum and maximum of innovative projects launched simultaneously, per one involved employee. This index in comparison with the previous one shows the development of human personnel, the growth of the projects scale (a lot of small projects versus small number of profitable projects)

- Average salary of the employees, in money terms and growth rate in dynamics will allow estimating the disproportions in added value and benefits distribution.

- Time spent to train the employee, days per year (or any other dimension, e.g. annual training costs in money terms).

- The average absinthism index (missing days, number; enterprise's losses in money terms).

- Trust of employee (expert evaluation).

- Conflicts level of the project/ functional teams (expert evaluation).

- Hours per week spent by employees (hours).

- Emotional burn-out syndrome evaluation (expert evaluation).

All these indexes are interrelated and we should analyze them in dynamics as it was done for the material resources analysis. The trust evaluation, conflicts evaluation will give the information about the organizational culture as one of the core elements for the organizational development – but in indirect way.

The next pillar of organizational development analysis is **organizational structure changes**. As a rule, traditional organizational structures are shifted to the project-based under impact of environmental signals (so called “market signals” in academic literature). We may illustrate the structure transformation by an example: the functional structure has proved its low efficiency in the dynamic environment and managers decided to improve performance by the implementing some principles of project-based organizations. It may be done by adding project team department to the existing organization

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structure temporarily or for the long run period. As this project team proves its effectiveness, this will initiate a chain of changes inside of the organization, which will diffuse project-based procedures and routines among the existing business-processes and the matrix structure will be established with time. There is no ideal structure for all times and situations, and it means that every new situation needs solutions for the structuring. The next stage may be multiple-SBU forms of organizations or any other ad hoc structure that fits the environment requests and mission of the organization.

The previous study on organizational inertia showed that “the level of organizational inertia increases with size for each class of organizations” [4]. The reorganization takes time, but sometimes the turbulence of the environment do not provide the organization with time needed, that’s why organizational re-design may become another source of the performance loss.

As we see, there is a paradox of organizational development. As the organization develops the positive dynamics of human and material resources should take place (first two pillars), but as it goes through the organizational redesign it leads to the negative dynamics in the performance indexes. The paradox occurs as far as development leads to the performance loss, if the evidences about the organizational inertia are taken into account. Of course, not the development itself, but the organizational inertia is the source of failures and losses. Moreover, the more duration of reorganization is (the bigger organizational inertia is), the more the possible death rate for the organization is (as it was said by the Hannan & Freeman [4]).

Any organizational changes planned or emerged must be evaluated through the framework of causes-consequences for the organizational future. We should mention organizational development model done by Cameron and Quinn [7], where the organizational profile is measured using multidimensional scale in several vectors: flexibility – control, internal – external focus of actions, ends – means focus. This model allows comprehensive formalization of the organizational changes in terms of life stage shifting from one organizational form to another. Following the logic of this research, for third pillar we offer the organizational structure evaluation indexes as it’s presented below (which is the synthesis of the previous studies as well):

- Comparison in dynamics of organization scale (revenue in money terms) and structure scale (quantity of employees per department, quantity of the departments).
- Evaluation (description) of the Organizational Forces (Mintzberg’s Model).
- Age of the organization (life stage by Adizes’s or Greiner’s Model).
- Structure vectors analysis (Cameron & Kim’s Model).
- Power system evaluation.
- Average age of managers (comparison in dynamics, comparison with the managers age in industry).
- Life cycle of the product (time period), including innovation, R&D time.
- Stake-holders’ interests Balance.

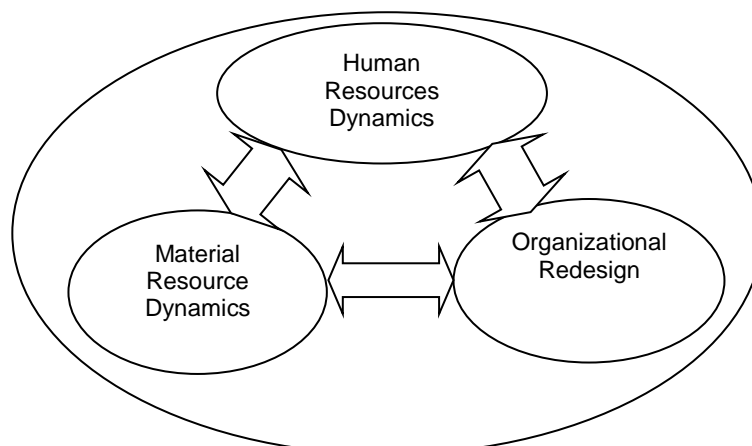


Fig. 2. Three-pillar Evaluation System for the Organizational Development (proposed)

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Conclusions. The proposed evaluation system (Fig. 2) is an attempt to synthesize the approaches to estimate the changes in different fields of organizational studies, but at the same time it's optional and can be modified by implementation of the various indexes. It is obvious that the combination of the spheres (or pillars) lead to the mix of quantitative and qualitative data and to search for the appropriate way to compare and combine them in proper manner. This is one of the critical issues of the proposed model, and the perspective of its further elaboration is data collection and using real cases.

Another critical issue of the model can be its applicability to the real situation of the modern enterprises. It is clear that most of the indexes offered in the paper are useful to understand the organizational changes and the trajectory of the organizational development, but most of them are presented separately from each other, not in a link with the global trends in the target industry.

One more discussion question can appear if we will remind ourselves, that structure vectors analysis considers the main indicators of the firm activity as competitiveness, profit, productivity, efficiency, human health or else. It means that authors try to compare different approaches to evaluate the organizational development by combining them in one, and it may lead to double-estimation of the some indicators. On the other hand, double-estimation will play the role of double-check of the results and their perception / presentation in the enterprise reports and will allow to reveal and solve the most crucial managerial problems.

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