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Evaluation of Financial Results of Industrial Enterprises Activities on the Basis of Creating Dynamic Normal

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Abstract: Enterprise development is reflected in the dynamics of its economic indicators. Therefore, for the construction of the integrated index of cost-effectiveness analysis it is advisable to use ordinal scale, representing ordering of measuring objects in accordance with the identified preference relation. The appropriateness of using the nonparametric methods for the evaluation of financial results of enterprise activities is proved in the paper. To determine the reserves of enterprise financial growth it is proposed to use dynamic normal. In order to form a path of enterprise development it is proposed to study and construct the dynamics of indicators on the basis of volume and structural dynamics. Disturbance matrixes which are considered in the actual ordering as a failure of a certain specific target set in the reference dynamic normal are means of identifying problems. Integrated cost-effectiveness analysis of the activities development on the basis of the dynamic normal reflects the closeness of the actual and normative set in the diagnostic model of ordering growth rate of economic indicators. The evaluation of the financial results of the activities of the studied enterprise on the basis of the formed dynamic normal is given in the article. The lines of activities for efficiency improvement based on the comparison of the actual and reference normative set indicators are proposed in the article.

Key words: Dynamic normal · Enterprise development · Financial result

INTRODUCTION

Financial result completes the production and financial cycle of enterprise activities connected with products manufacturing and sales and at the same time is a necessary condition for the growth of the effectiveness of its activities. An important step in the process of the management of enterprise financial results is the systems and methods of their analysis. The analysis of financial results is the process of studying the conditions and the results of profits generation and use with the purpose of revealing the reserves of its growth [1]. So when modeling the growth of financial results, on the one hand, it is necessary that the criteria of the growth have a dynamic representation and , on the other hand, it is necessary to measure the degree of deviation of the actual values of performance indicators from these criteria. In order to evaluate the dynamics of the indicators reflecting financial results, as well as to reveal the reserves of the growth of these indicators it is advisable to use ordinal scale, representing ordering of measuring objects in accordance with the identified preference relation [2].

Research Methodology: Construction of the growth rate of these indicators, carried out on the basis of nonparametric methods of rank correlation implies the following procedures: determination of organization target function, delimitation of the zones of organization economic activities, calculation of the parameters for changing the indicators and their ranking, the synthesis of dynamic reference, statistical processing [3-5].

A set of ranked indicators of financial and economic activities of an enterprise between which the normative ratio of growth rates is established and recorded is called dynamic normal [4].

The dynamics of the indicators characterizing the results of enterprise activities, as well as the growth rates of these indicators are represented in Table 1.

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Table 1: The dynamics of the enterprise activities indicators

Coefficients	Notation	in 2012	in 2013	Rates
Number	N	195	218	1,12
Assets	A	229556,3	251184,7	1,09
Sales revenues	SR	780613,0	887230,7	1,14
Sales profit	SP	198287,8	210717,9	1,05
Net profit	NP	134736	142777,6	1,06

Table 2: The ordered estimation of joint movement over time of the indicators synthesized into dynamic normal

Coefficients	Notation	Rates	Normative rank	Actual rank
Number	N	1,12	5	2
Assets	A	1,09	4	3
Sales revenues	SR	1,14	3	1
Sales profit	SP	1,05	2	5
Net profit	NP	1,06	1	4

Table 3: Matrix of normative values of the indicators growth of enterprise performance

Indicators	N	A	SR	SP	NP
N	1	-1	-1	-1	-1
A	1	1	-1	-1	-1
SR	1	1	1	-1	-1
SP	1	1	1	1	-1
NP	1	1	1	1	1

Table 4: Matrix of actual indicators of enterprise performance

Indicators	N	A	SR	SP	NP
N	1	1	-1	1	-1
A	-1	1	-1	1	-1
SR	1	1	1	1	1
SP	-1	-1	-1	1	-1
NP	1	1	-1	1	1

Consciously constructing and controlling indicators dynamics, it is possible to determine lines of enterprise economic development, as well as to control its movement to achieve intended targets. Dynamic normal reflects enterprise reference activity; therefore, ranking indicators increase it is possible to construct dynamic normal, representing a model order of indicators movement expressing the requirements for the operating schedule of the enterprise and corresponding to a better dynamic financial position and financial results [6,7].

Ordered estimation of joint movement over time of the indicators synthesized into dynamic normal is presented in Table 2.

Any actual order of indicators growth can be compared to the normal. The more the deviation of actual values from the normative values is, the lower the performance of the enterprise is [6]. Thus, the highest rank is rated to net profit. This means that this indicator according to growth rates should outrun all the other indicators. Further, it is necessary to represent dynamic normal of enterprise performance in a matrix form (Table 3).

$NP \rightarrow SR \rightarrow A \rightarrow SR \rightarrow N \rightarrow 1$

Fig. 1: Dynamic normal of the enterprise

Dynamic normal of the enterprise is represented in Fig. 1.

The direction of each arrow describes the relationship between the normative rates of indicators. At the next stage the matrix of actual indicators of enterprise performance is formed.

The table data shows that enterprise assets grow more rapidly in relation to the accounting profit, therefore, on the intersection of row and *A* and column *SP* the indicator is '- 1'. At the next stage the deviation of actual indicators from the normative values is defined. The results are presented in Table 5.

In those cells, where there are '2', there is a deviation of the indicators from the reference of dynamic normal and where there are '0', there is no deviation, i.e. actual order corresponds to the reference order [7-10].

Table 5: Deviation of actual indicators from the normative values

Indicators	N	A	SR	SP	NP
N	0	2	0	2	0
A	2	0	0	2	0
SR	0	0	0	2	2
SP	2	2	2	0	0
NP	0	0	2	0	0

Table 6: Ranked rates of enterprise performance

Coefficients	Notation	Normative ranks	Actual rates	Actual ranks	Ranks deviation	Degree of problematicity
Net profit	NP	1	1,06	4	3	2
Sales profit	SP	2	1,05	5	3	1
Sales revenues	SR	3	1,14	1	-2	4
Assets	A	4	1,09	3	-1	3
Number	N	5	1,12	2	-3	5

At The next stage it is necessary to determine the reasons for the deviation of the actual order of the indicators growth from the normative order (these reasons resulted in decrease in effectiveness) and to generate correlative dynamic normal. The deviation of the actual order (Δ_i) is defined by formula (1)

$$\Delta_i = r_f - r_n , \quad (1)$$

where r_f is the rank of the i-th indicator in the actual order;

r_n is the rank of the i-th indicator in the dynamic normal.

Positive value of (Δ_i) indicates that it is necessary to take measures to increase the growth rate of the indicator under consideration. Negative value of (Δ_i), on the contrary, implies the necessity to decrease the growth rates of the i-th indicator [3].

As a result, the correlative dynamic normal is constructed.

RESULTS AND DISCUSSION

The degree of problematicaticity equal to '1' means that this indicator needs special priority, in this case it is sales profit.

Correlative dynamic normal corresponds to this table (Figure 2).

Thus, the conclusion that the company cannot provide the sufficient profit growth can be made because the increase in costs does not correspond to the achieved sales volume and hamper the financial results growth. Therefore the enterprise should focus on cost management.

$SP \rightarrow NP \rightarrow A \rightarrow SR \rightarrow N$

Fig. 2: Correlative dynamic normal of enterprise activity

CONCLUSION

Thus, the construction of dynamic normal and measurement of the deviations of planned of elements of the row from the actual values allow identifying the bottlenecks of financial results management and the degree of their problematicity. Depending on the deviation value of the planned indicators from the actual ones the lines of activities for improving the situation can be chosen that is the measures to increase or decrease the indicators which are the bottlenecks are undertaken.

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