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Methodological Tools of Consulting Companies for Evaluating the Effectiveness of Organizations

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ABSTRACT

The article is devoted to a comparative analysis of existing opportunities and directions for evaluating the effectiveness of organizations using the resource-cost method (static model), Pareto optimality and the dynamic standard method (dynamic model). **The purpose** of the study was to identify the content of alternative approaches and models used by consulting companies to determine the effectiveness of organizations that produce and sell goods and services. The methodology described in the article is based on neoclassical economic theory. In the course of the work, a conceptual analysis of significant scientific alternatives to static and dynamic models for assessing economic efficiency was carried out. Any of them (or a combination of them), as established by the authors of the study, can be equally applied in the activities of all economic entities, including consulting companies. **The results** obtained include the definition of a set of methodological tools within the framework of the resource-cost method, the Paretian optimum and the dynamic standard method; substantiation of the equivalence and mutual complementarity of scientific model alternatives to efficiency, the interaction of the process and the result of efficiency assessment based on the principle of complementarity; evaluation of the organization's activities in a static efficiency model as an example of the implementation of the principle of complementarity. The results of the study can be applied both in the practice of management consulting and regular management of the organization.

Keywords: efficiency; resource-cost approach (method); dynamic standard method; Pareto-optimality; management consulting

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INTRODUCTION

Efficiency, as both a characteristic and a target function of organizations, represents a critical practical and theoretical issue. Its scientific investigation at all levels of the economy is highly relevant for consulting firms. From an economic perspective, the full realization of the target function is the fundamental condition under which the maximum (or acceptable) result is achieved while ensuring the minimally necessary and sufficient expenditure of all resources used to accomplish this goal [1, p. 96].

The authors of this article propose the hypothesis that organizational efficiency, despite its logically identical essence, is assessed and manifested differently depending on the level of the economy (nano-, mini-, micro-, meso-, and macro-). These variations occur from the perspective of both individual organizations and groups of organizations within industries and national production sectors.

The subject of this study is the methodological tools for assessing organizational efficiency through the resource-cost method (static model), Pareto optimality, and the dynamic norm method (dynamic model).

Such an assessment represents a rather complex scientific problem due to the following factors:

First, the market comprises a large number of companies that differ in scale, resources, costs, production technologies, and service delivery methods. While they share some common performance indicators, many are entirely different. This diversity makes it challenging to apply a single universal methodology for accurately determining efficiency.

Second, not all economic efficiency indicators can be precisely quantified within a specific measurement framework. As a result, dimensionless values are often used for evaluation.

Third, the impact of external and internal environmental factors on organizations is highly specific in each case. This necessitates the development of custom models that complement general alternative approaches to assessing resources for improving economic efficiency.

Given the above, we believe that the core issue lies in the development of a set of general and specific indicators that would enable a representative assessment of the potential for efficiency improvement.

MODELS OF ECONOMIC EFFICIENCY

In our view, such models can be divided into two major categories: the static model (used in situations involving comparative statics of efficiency indicators) and the dynamic model for analyzing and evaluating efficiency.

Let us examine the first model in more detail. In addition to the classical Pareto optimum, the *resource-cost approach* (method) has been developed. According to this approach, efficiency (E_{ij}) is defined as the ratio of the final results (effects) of an organization's production and commercial activities (R_i) to the resource costs (C_j), required to achieve them.

In its most general form, economic efficiency can be expressed by the equation:

$$E_{ij} = R_i / C_j \quad (1)$$

From the perspective of the resource-cost approach, economic efficiency can be characterized as follows:

a) the economic efficiency of organizations is essentially the same across different economic levels, as expressed by equation (1), and is independent of their economic scale;

b) efficiency assessment includes both general and highly specific indicators, meaning there may not be a single universal methodology;

c) quantitative and qualitative assessments can be combined into a single integral criterion of economic efficiency;

d) the general resource-cost approach does not exclude the use of complementary specific models of economic efficiency;

e) within this approach, it is reasonable to distinguish between *resource* efficiency (related to

resource utilization) and *target* efficiency (focused on production processes).

Economic efficiency in resource utilization is revealed and characterized by indicators such as productivity (labor and capital) and profitability (return on equity, return on borrowed capital, and returns on fixed and current assets).

Labor and capital productivity is determined as the ratio of total, average, and marginal outputs (measured in physical or monetary units) to strictly fixed input volumes — such as work hours (in man-hours), workforce size (in machine-hours), or the number of equipment units (in units). Productivity indicators reflect the economic efficiency of resource utilization from a material and physical perspective (*Table 1*).

Profitability indicators assess resource efficiency from a monetary perspective, representing the ratio between the value of output (at wholesale or market prices) and the organization's assets. These indicators are calculated based on the following financial performance metrics: revenue, profit (or loss), commercial margin, cash flow, net cash income, and others (*Table 1*).

Based on the logic of the indicators presented in *Table 1*, the overall criterion for an organization's economic efficiency over the reporting period (calendar year) is the return on equity:

$$EEO_{t-1} = NPr / E(NAO) * 100\%, \quad (2)$$

where:
EEO_{t-1} — economic efficiency of the organization for the reporting period;
NPr — net profit for the reporting period;
E(NAO) — equity (net assets of the organization).

Target efficiency is an economic assessment of processes and operations, reflecting the degree (level) of goal achievement in relation to the resources spent. This indicator is calculated using equation (1).

Let us consider the necessary conditions for achieving the target function, specifically the resource expenditure constraints under which it can reach its maximum values:

$$\begin{cases} F(z) \to \max(\min), \\ g(z) \le B, B > 0, \\ a_i > 0, i = \overline{1,n}, \\ b_j > 0, j = \overline{1,m}, \\ pi, pj > 0 \end{cases} \quad (3)$$

where:
F(z)– target function; *z*– goal of economic activity related to service production;
g(z) — cost function;
B — producer's budget constraint;
a_i, b_j — resource utilization coefficients of the organization;
pi, pj– resource prices.

The indicators of target economic efficiency are revealed through performance factors (*Table 2*). In an organization's production plans, its economic goals are always quantitatively linked to the increase or decrease of a particular aggregate indicator (for example, increasing production volume and/or reducing resource costs).

Therefore, when calculating performance indicators, the formula for base or chain growth rates should be used:
Base growth rate:

$$\rho_{1-0} = Q_1 - Q_0 / Q_0 * 100\%, \quad (4)$$

Chain growth rate:

$$\rho_{t|t-1} = Q_t - Q_{t-1} / Q_{t-1} * 100\%, \quad (5)$$

where:
ρ_{1-0} — base growth rate indicator;
Q_1– current indicator value;
Q_0– base indicator value;
$\rho_{t|t-1}$ — chain growth rate indicator;
Q_t — current indicator value;
Q_{t-1} — previous indicator value.

The number of performance indicators can be increased through specific and general indicators of economic efficiency, taking into account the industry-specific features of the organization and the evaluation methodology. Suppose that in the case of evaluating organizations in the service

sector (such as those providing sanatorium-resort services, including medical, physical culture, sports, and fitness services), it is acceptable to use general indicators such as "Growth of Sanatorium-Resort Activity Quality (GS-RAQ)" and/or "Growth of Sanatorium-Resort Services Quality (GS-RSQ)," which are assessed by growth indices (increase) of resort-health attractiveness and customer satisfaction with the quality of sanatorium-resort services.

An important indicator is the integral economic efficiency indicator (IEEI), which is created to provide a comprehensive picture and represents a synthesis of general indicators of productivity, profitability, and organizational performance.

From a microeconomic perspective, economic efficiency is determined by the solvency demand presented by a given market in accordance with the utility of the products and the equilibrium market prices associated with them. Accordingly, the need for growth in economic efficiency for organizations is driven by the mobility of consumer behavior regarding the goods and services they supply to the market, as the intensity and volume of effective demand for products directly affect their competitiveness and growth resources.

The assessment of economic efficiency in organizations within the framework of consumer choice theory mainly relies on the concept of Pareto-optimal market equilibrium. In this case, in addition to producers and sellers of goods, households (consumers and buyers of products) also benefit, which is expressed in indicators of optimality and efficiency according to Pareto (i.e., the Pareto efficiency area covers the economy of welfare).

Thus, a system is efficient (Pareto-optimal) if, under conditions of perfect or imperfect competition, the marginal rates of substitution of production factors and goods in the processes of production and consumption are equal for all producers and consumers. Regarding the activities of organizations, the conditions for Pareto efficiency determine the rules they follow, optimizing their benefits (economic profit, revenue, costs, etc.) in markets characterized by perfect and imperfect competition.

These rules include the evaluation of marginal, average, and gross revenue, marginal costs, and prices per unit of production. Adhering to the conditions of Pareto efficiency provides organizations with opportunities to earn profit, which fully aligns with the economic efficiency criterion according to equation (2).

In our opinion, consulting companies should conduct the analysis and assessment of the economic efficiency of an organization's activities within the framework of a static model in the following sequence:

1) diagnosis of management, financial, and economic issues and "bottlenecks" in the organization's operations;

2) formulation of the general task of analyzing and assessing the economic efficiency of its activities;

3) calculation of numerical values for summarizing efficiency indicators;

4) justification for the addition of partial and summarizing efficiency indicators;

5) analysis of economic efficiency based on growth rates of indicators and application of a generalized economic efficiency criterion to its results;

6) development of a unified 5-level evaluation scale;

7) transformation of summarizing efficiency indicators into unified variables and conversion into dimensionless form;

8) consolidation of unified variables (using the arithmetic mean formula) into an integral indicator;

9) integral assessment of economic efficiency based on the evaluation scale;

10) conclusions about the reasons and factors behind the negative or positive state of the organization's activities based on the assessment of economic efficiency [2, p. 122–123; 3, p. 467–469].

The synergistic effect of the Integrated Performance Efficiency Indicator (IEEI), according

Summary indicators of the economic efficiency of resource use

Performance indicators	Calculation formula
1	2
Output of marketable products (in value terms)	PL = RSMP / AANPP, where: PL – labor productivity (thousands of rubles); RSMP – revenue from the sale of marketable products (thousands of rubles); AANPP – average annual number of production personnel (people).
Labor Intensity	LI = TWH / VMP, where: LI– labor intensity; TWH – total working hours spent on production; VMP – volume of marketable products in natural units.
Labor Effectiveness	PL = BPr/WF, where: PL –labor productivity (rubles/rubles); BPr – balance profit from all activities (thousands of rubles); WF – wage fund, including social contributions (thousands of rubles).
Production Capacity (Organization)	CPW = EWT* NIE / LIP , where: CPW– capacity of main production workshops (units); EWT – effective working time of equipment (hours); NIE – number of identical equipment, units; LIP – labor intensity per unit of product (hours/unit). CA=NWTFW*WA / LIP*AOWS, where: CA – capacity of auxiliary (assembly, installation, etc.) workshops (units); NWTFW – nominal working time fund of the workshop (hours); WA – workshop area (m^2); LIP – labor intensity per unit of product (hours/unit); AOWS – area of one workstation (m^2).
Production Capacity (Organization)	PCEY= PCBY+ PCCDY– PCRDY, where: PCEY – production capacity at the end of the year; PCBY – production capacity at the beginning of the year; PCCDY – production capacity commissioned during the year; PCRDY – production capacity retired during the year. $AAPC = PCBY + \frac{PCRDY \cdot NMIEY}{12} - \frac{PCRDY \cdot NMDEY}{12}$, where: AAPC – Average annual production capacity NMIEY– number of months from the moment of capacity introduction until the end of the year; NMDEY – number of months from the date of disposal of capacity until the end of the year.
Organization's Production Capacity Utilization Rate	$RUPCO = \frac{AVMP}{AAPC}$, where: RUPCO – Organization's Production Capacity Utilization Rate; AVMP – annual volume of marketable products (thousands of rubles).
Intensive Equipment Load Rate. *Extensive Equipment Load Rate*	RIEL = AAAPC / PCTDS *100% where: RIEL – Intensive Equipment Load Rate; AAAPC – Average annual actual production capacity of the enterprise; PCTDS – Production capacity of the enterprise according to the technical data sheet. REEL= AVAMP / AVEMP *100%, where: REEL – Extensive Equipment Load Rate; AVAMP – annual volume actual of marketable products (thousands of rubles); AVEMP – annual volume effective of marketable products (thousands of rubles).
Integral Equipment Load Rate	IELR= RIEL* REEL / 100%, where: IELR – Integral Equipment Load Rate.

Source: compiled by the authors.

Table 1

Summary indicators of the economic efficiency of resource use

	Profitability indicators	Calculation formula
	3	4
	Fixed Asset Turnover (FAT)	FAT = AVMP/AAVFAC *100%, where: FAT – fixed asset turnover; AVMP – annual volume of marketable products (rubles); AAVFAC – average annual value of the company's fixed assets (rubles).
	Fixed Asset Capacity	FAC = AAVFA /AVMP*100%, where: FAC – fixed asset capacity; AAVFA – average annual value of fixed assets (thousands of rubles); AVMP – annual volume of marketable products (thousands of rubles).
	Capital Intensity	CI = AAVFA / AANPP, where: CI – capital intensity; AAVFA– average annual value of fixed assets (rubles); AANPP – average annual number of production personnel (people).
	Fixed Asset Renewal Rate	FARR =VNIFA/ VFABY *100%, where: FARR – fixed asset renewal rate; VNIFA – value of newly introduced fixed assets (thousands of rubles); VFABY – value of fixed assets at the beginning of the year (thousands of rubles).
	Fixed Asset Disposal Rate	FADR= VRFA / VFAEY*100%, where: FADR – fixed asset disposal rate; VRFA – value of retired fixed assets (thousands of rubles); VFAEY – value of fixed assets at the end of the year (thousands of rubles).
	Fixed Asset Depreciation Rate	RD = ADA / AAVFAC*100%, where: RD – depreciation rate; ADA – annual depreciation amount (thousands of rubles).
	Organization's product profitability	OPP = QPr / TCP *100%, OPP – organization's product profitability; QPr – gross profit from core operations (thousands of rubles); TCP – total cost of production (rubles).
	Profitability of the organization	PrAO = BPrAA / TFCA *100%, PrAO – profitability of the organization; BPrAA – balance profit from all activities (thousands of rubles); TFCA – total fixed and current assets (thousands of rubles).

Table 2

General indicators of the economic efficiency of the target function of the organization

Performance indicators	Calculation formula, units of change
Growth of Labor Productivity	$P_{t\|t-1}(P_{1\|0})_{GLP} = \partial GLP / GLP * 100\%$, where: $P_{t\|t-1}(P_{1\|0})_{GLP}$ – chain (base) indicator of labor productivity growth rate; ∂GLP – relative increase in the labor productivity indicator over the period; GLP – previous (base) value of the indicator.
Reduction of Labor Costs	$P_{t\|t-1}(P_{1\|0})_{RLC} = \partial RLC / RLC * 100\%$, where: $P_{t\|t-1}(P_{1\|0})_{RLC}$ – chain (base) indicator of reduction in labour costs in growth rates; ∂RLC – relative increase in the labour cost indicator; RLC – previous (base) value of the indicator.
Growth of the Return on Fixed Asset	$P_{t\|t-1}(P_{1\|0})_{GRFA} = \partial GRFA / GRFA * 100\%$, where; $P_{t\|t-1}(P_{1\|0})_{GRFA}$ – chain (base) indicator of the return on assets in growth rates; ∂GRFA – relative increase in the return on assets indicator; GRFA – previous (base) value of the indicator.
Growth of Product Profitability	$P_{t\|t-1}(P_{1\|0})_{GPPrA} = \partial GPPrA / GPPrA * 100\%$, where: $P_{t\|t-1}(P_{1\|0})_{GPPrA}$ – chain (base) indicator of product profitability in growth rates; ∂ GPPrA – relative increase in the indicator of product profitability; GPPrA – previous (base) value of the indicator.
Growth of Organizational Profitability	$P_{t\|t-1}(P_{1\|0})_{GOPrA} = \partial GOPrA / GOPrA * 100\%$, where: $P_{t\|t-1}(P_{1\|0})_{GOPrA}$ – chain (base) indicator of organizational profitability in growth rate; ∂GOPrA – relative increase in the organizational profitability indicator; GOPrA – previous (base) value of the indicator.

Source: compiled by the authors.

to the results of our previous studies, ultimately manifests for the observer as an emergent property of the system [2, p. 121–122]. This understanding of the problem of evaluating economic efficiency lies in the presence of "… a mechanism for the emergence of emergent properties, which allows for the separation of wholes from systems as a collection of elements…" [2, p. 122].

"*Emergent property* (EP), *holism* in the activities of organizations, is the main and important resource of their efficiency, stability, and a condition for growth" [2, p. 122–123]. An organization that lacks the property of integrity is merely an aggregate of elements, which reduces its efficiency and growth potential, as in this state, it gradually degrades. "The emergent property itself has a material carrier — a single *mediator* for all parts (elements) of the system, possessing qualities independent of them" [2, p. 123].

THE TOOLKIT OF THE DYNAMIC MODEL FOR EFFICIENCY ASSESSMENT

The dynamic model for evaluating an organization's efficiency is based on the method of dynamic norms (DN), the methodology of which was formulated in general by I.M. Syroezhin [4], and later systematized and methodologically developed by his followers [5–7].

The research and methodological toolkit of management consulting is built on the basis of the DN method, which involves constructing an ordered normative system of performance indicators for the organization in the form of a reference series, and then determining deviations of the actual arrangement of indicators from the normative (reference) one [8].

The integral indicator (II), obtained using the DN method, reflects the direct relationship between performance and the quality of the organization's management and its numerical characteristics. Therefore, the higher the (II) value, the more significant the financial and economic outcomes of managerial activities, and vice versa [8].

The process of forming the reference series is of an expert nature, and "the system of indicators will be representative of the organization's mode of operation if ranks of speeds and accelerations are established, i.e., a stable order of changes in the structural components of activities and the rates of their changes" [9, p. 116].

EXPERIENCE IN APPLYING THE STATIC MODEL FOR ASSASSING ORGANIZATIONAL EFFICIENCY

Variations in methodological approaches to efficiency evaluation based on the static and/or dynamic model depend, for example, on the preferences of the consultant (researcher) on one hand, and the state of the object of evaluation on the other.

Let us assume that an express diagnosis and evaluation of the organization's performance are required based on the analysis of its financial documents, which can be carried out using a resource-cost method. Such a situation often arises in the course of the current adjustment of the company's policies in the areas of finance, production, personnel, sales, marketing, etc., within the framework of its socio-economic development strategy.

Management decisions are most often made by the management based on the conclusions of management consulting specialists. In our case, a unique example of such an organization, where the goal of improving production-economic efficiency is an essential element of the development strategy, is JSC "Russian Railways", for which social aspects of activity are of primary importance.

The social responsibility and the volume of social investments of JSC "Russian Railways" are determined by a component of the company's infrastructure, such as the presence of institutions on the balance sheet of its subsidiaries that provide services in sanatorium-resort rehabilitation and recreational medicine.[1]

Two subsidiaries of JSC "Russian Railways" in the Ural Federal District (UFD) — Sverdlovsk and South Ural Railways (YUZHD) — possess some of the best social infrastructures in the Russian Federation in terms of technical equipment, material base, personnel qualifications, and the volume of services provided by sanatorium-resort rehabilitation institutions. Therefore, a significant aspect for the holding company is the question of improving the efficiency of their operations.

The social facilities of YUZHD (based on their management principles, control, and development) can be divided into the following groups: culture, sports, and health promotion for adults and children. The management of these facilities is carried out by the Directorate of Social Affairs (DSA) of YUZHD, a branch of JSC "RZD," which currently has 10 sanatorium-resort rehabilitation and recreational medical facilities on its balance sheet: 3 sanatorium-prophylactics, 2 sports complexes, and 5 children's health centers.

Among these 10 institutions, the most representative object in terms of a combination of factors is the children's health complex "Alyonushka" (CHC "Alyonushka"). It is located in the most picturesque and ecologically clean area of the South Urals, on the territory of the Ilmen Nature Reserve, in the mountains, by the shores of

[1] JSC "Russian railways" (official website). URL: https://company.rzd.ru/

Table 3

Dynamics of the performance indicatorsof CHC "Alyonushka"

Indicator	Absolutevalues, year			Growth, %	
	2019	2020	2021	2020/2019	2021/2020
Patient population, persons	152	132	133	–13.2	0.8
Income, thousand RUB	116 401.8	108 589.9	110 538.1	–-6.7	1.8
Expenses, thousand RUB, including:	112 029.4	103 296.3	107 268.0	–7.8	3.8
wages	45 981.5	41 661.5	42 968.3	–9.4	3.1
material costs	29 023.4	35 409.8	35 142.8	22.0	–0.8
Depreciation of fixed capital	6082.2	2568.0	2337.4	–57.8	–9.0
DSA management expenses	7648.5	6445.0	6912.7	–15.7	7.3
Financial result, thousand RUB	4372.4	5293.6	3270.1	21.1%	–38.2%
Expense recovery from income, %	103.9	105.1	103.0	1.2	–2.0

Source: compiled by the authors.

Note: Disclosure of information for 2022 is limited based on the Resolution of the Government of the Russian Federation No. 351 dated 12.03.2022.URL: https://www.garant.ru/products/ipo/prime/doc/403593706/

the Big Yelanchik Lake. In terms of infrastructure for recreation and sports activities, as well as the condition of medical equipment, the complex is one of the best in the UFD.[2]

Let's consider CHC "Alyonushka" from the perspective of the economic components of its activities aimed at providing services such as health promotion, recreation, and treatment:

a) fixed capital (FC);
b) working capital (WC);
c) production capacity (PC);
d) labor productivity (LP);
e) service prices and tariffs (SPT);
f) service profitability (SPrA);
g) profitability of social infrastructure facilities of the DSS YUZHD (PrASIF);
h) quality of sanatorium-resort activities (QS-RA);
i) quality of sanatorium-resort services (QS-RS).

Table 3 presents the dynamics of performance indicators of CHC "Alyonushka" for the period 2019–2021.

From *Table 3*, it follows that the growth rates of the indicators over the three years (2019–2021) are unstable. Among the total expenses, the largest relative change in 2020 was observed in the "depreciation of fixed capital" indicator — a decrease in depreciation charges by 57.8%; meanwhile, the growth of material costs was 22.0%, and management expenses decreased by 15.7%. As a result, the financial performance of the complex increased by 21.1%.

In 2021, there was a noticeable, though minor, increase both in the number of consumers of sanatorium-resort health improvement and recreational medicine services and in the income and expenses of the complex. At the same time, the growth of management expenses in DSA was twice as large as the increase in wages.

[2] South Ural Railway. Social sphere. JSC "Russian Railways" (official website). URL: https://yuzd.rzd.ru/ru/6236/page/103290?id=10307#main-header

Table 4

Diagnostics of the economic efficiency of sanatorium-resort rehabilitation and recreational medicine institutions of the DSA of the South Ural branch of JSC Russian Railways

Indicator	Formula	The actual value of the indicator dimension less view		The optimal value of a dimension less indicator
		2020	2021	
Output of goods in monetary terms at selling prices	PL = PSMP / AANPP	642.67	672.00	max, thousand RUB/ person
Labor intensity	LI = TWH / VMP	0.18	0.17	min, hour/ item
Labor productivity	PL = BPr/ WF	–0.05	–0.04	max, RUB/RUB
Production capacity of organization	CPW = EWT*NIE/ LIP	10040	10289	max, hour, an FA per item
Capacity utilization rate of an organization	$RUPCO=\frac{AVMP}{AAPC}$	0.3	0.3	1,00
Intensity equipment loading ratio	RIEL = AAAPC / PCTDS *100%	60	59.9	100%
Extensive equipment loading ratio	REEL= AVAMP / AVEMP *100%	97.3	97.3	100%
Integral equipment loading ratio	IELR= RIEL* REEL / 100%	58.38	58.28	100%
Return on fixed assets	FAT = AVMP/AAVFAC *100%	108	130	max, %
Capital intensity	CI = AAVFA/ AANPP*100%	93	77	min, %
Capital labour ratio	CLR = AAVFA/ AANPSO	597.06	515.61	max, thousand RUB
Fixed assets renew ratio	FARR =VNIFA/ VFABY *100%	no data	no data	max, %
Asset disposal ratio	FADR= VRFA / VFAEY*100%	no data	no data	max, %
Depreciation ratio of fixed assets	RD = ADA / AAVFAC*100%	0.42	0.36	max, %
Profitability of the organisation's products	OPP = QPr / TCP *100%	– 2.1	–1.5	max, %
Profitability of the organization	PrAO = BPrAA /TFCA *100%	–2.1	–1.8	max, %
Labor productivity growth based on performance	$P_{t/t-1}(P_{1-0})_{GLP}$= ∂GLP/ GLP*100%	–6.15	–30.54	max, %
Labor productivity growth based on output	$P_{t/t-1}(P_{1-0})_{GLP}$= ∂GLP/ GLP*100%	11.69	4.37	max, %

Table 4 (continued)

Indicator	Formula	The actual value of the indicator dimension less view		The optimal value of a dimension less indicator
		2020	2021	
Reduction in labor costs	$P_{t\|t-1}(P_{1-0})_{RLC} = \partial RLC / RLC * 100\%$	–3.06	–6.15	max, %
Growth in the return on assets of the organization	$P_{t\|t-1}(P_{1-0})_{GRFA} = \partial GRFA / GRFA * 100\%$	47.99	17.41	max, %
Growth in the profitability of the organization's products	$P_{t\|t-1}(P_{1-0})_{GPPrA} = \partial GPPrA / GPPrA * 100\%$	40.47	–17.61	max, %
Growth in institutional profitability	$P_{t\|t-1}(P_{1-0})_{GOPrA} = \partial GOPrA / GOPrA * 100\%$	–8.25	–36.75	max, %
Growth of sanatorium-resort activity quality	$P_{t\|t-1}(P_{1-0})_{GS-RAQ} = \partial I_{AQ} / I_{AQ} * 100\%$	–7.7	–33.8	max, %
Growth of sanatorium-resort services quality	$P_{t\|t1}(P_{1-0})_{GS-RSQ} = \partial I_{SQ} / I_{SQ} * 100\%$	11.60	8.75	max, %

Source: compiled by the authors.

Table 5

The evaluation scale of the level of economic efficiency of the activities of the "Alyonushka" children's health resort complex and the system of sanatorium-resort health and recreation institutions.

The level of economic efficiency	The range in values of the integrated assessment of economic efficiency (E_{integr})
Absolutely efficient activity	5,00–4,00
Highly efficient activity	3,99–3,00
Efficient activity	2,99–2,00
Low efficient activity	1,99–1,00
Inefficient activity	ниже 1,00

Source: compiled by the authors.

Table 6

General indicators of the economic efficiency of the target function of CHC Alyonushka complex

Performance indicators,%	2020	2021
Labor productivity growth (PL) in output	6.91	1.02
Reduction in labor costs (WF)	–10.37	3.04
Growth in return on assets of the complex (CI)	57.12	12.66
Growth in product profitability of the complex (OPP)	23.84	–68.10
Growth in profitability of the complex (PrAO)	65.15	–46.72
Growth in the quality of sanatorium-resort activity ($P_{t\|t-1}(P_{1-0})_{GS-RAQ}$)	9.80	–18.20
Growth in the quality of sanatorium-resort services ($P_{t\|t-1}(P_{1-0})_{GS-RSQ}$)	22.90	14.31

Source: compiled by the authors.

Table 7

Unifiedvariables of dimensionlessform

Values of the initialindicator X^i (2021 y.)	Formula	$X^i_{max.}$	$X^i_{min.}$	The value of the unifiedvariableXj', j>0–1,7
1,02	$X' = [(X^i - X^i_{min})/(X^i_{max} - X^i_{min})]*N$	11.69	1.02	0
3,04	$X' = [(X^i_{max} - X^i) / (X^i_{max} - X^i_{min})] * N$	3.04	–6.15	0
12,66	$X' = [(X^i - X^i_{min})/(X^i_{max} - X^i_{min})]*N$	47.99	12.66	0
–68,10	$X' = [(X^i - X^i_{min})/(X^i_{max} - X^i_{min})]*N$	40.47	–68.10	0
–46,72	$X' = [(X^i - X^i_{min})/(X^i_{max} - X^i_{min})]*N$	–8.25	–46.72	0
–18,20	$X' = [(X^i - X^i_{min})/(X^i_{max} - X^i_{min})]*N$	–7.7	–33.8	3.08
14,31	$X' = [(X^i - X^i_{min})/(X^i_{max} - X^i_{min})]*N$	14.31	8.75	5

Source: compiled by the authors.

To analyze and assess the efficiency of the activities of "Alyonushka" health resort complex, it is necessary to diagnose the economic problems and "bottlenecks" of all the profile institutions included in it, which involves calculating the economic efficiency indicators according to *Tables 1* and *2*.

The results are presented in *Table 4*.

The growth of the quality of sanatorium-resort activities ($P_{t|t-1}(P_{1-0})_{GS\text{-}RAQ}$) and the quality of sanatorium-resort services ($P_{t|t-1}(P_{1-0})_{GS\text{-}RSQ}$) is proposed to be assessed by the growth rates of the resort-health appeal index ($\partial I_{AQ}/I_{AQ}$*100%) and the satisfaction index for the quality of sanatorium-resort services ($\partial I_{SQ}/ I_{SQ}$*100%).

The evaluation scale of the level of economic efficiency of the activities of the "Alyonushka" children's health resort complex and the system of sanatorium-resort health and recreation institutions is presented in *Table 5*.

Table 6 shows the dynamics of the economic efficiency of the "Alyonushka" children's health camp based on the calculation of chain growth rates of aggregate indicators according to formula (5), and *Table 7* presents the transformation of aggregate efficiency indicators into standardized variables and their conversion into a dimensionless form.

The integrated assessment of economic efficiency (IAEE) is calculated based on the values of standardized variables for each indicator… (*Table 7*) and "…their aggregation using the arithmetic mean formula" [2, p. 125]:

$$IAEE = (0+0+0+0+0+3{,}08+5)/7 = 8{,}08/7 = 1{,}154. \quad (6)$$

Thus, according to *Table 5*, the score of 1.154 indicates that the sanatorium and health institutions involved in "Alyonushka" CHC are operating effectively, but require adjustments due to instability and low performance indicators. For the DSA of the South Ural Railway (YUZHD) — a branch of JSC "RZD," this conclusion can serve as an indicator for refining the strategy for social sphere development, income policy, service quality, and profitability.

Since 2018, the South Ural Railway has consistently ranked 8th-9th among 16 branches of JSC "RZD" based on the indicator "Use of capacities of children's health camps" according to the assessment by the Corporate Property Department (CPI) of the company.

CONCLUSIONS

To summarize the above, we can conclude that the models and methods for analyzing and assessing the effectiveness of organizations, which are subject to management consulting and auditing, are of equal value. The scientific problem lies in the fact that effectiveness, on the one hand, is a central theme in the development of economic science and its basic category. However, on the other hand, there are many types of effectiveness in the economy, determined by the object and subject, their motives, goals, constraints, results, and the process of activity, as well as equilibrium [10, p. 52].

Accordingly, the solution to the problem of effectiveness in the article is viewed as a rational choice of methodological tools depending on the aspects (three in total: process, result, equilibrium) in which the relevant indicators are analyzed and evaluated.

For each aspect, a separate model is proposed: dynamic for the process; static for the result; and the Pareto optimality for equilibrium market situations. Furthermore, the methodologies within the dynamic and static models of effectiveness are interchangeable and complement each other during the work of management consulting specialists.

However, more often than not, consultants in consulting companies are faced with choosing one option from different variants of method interaction, which is modeled based on well-known scientific relationships between process and result.

Such interactions can take the form of a chemical reaction, genetic mutation, epistemological negation and rupture, or a complementary combination of process and result based on the principle of complementarity.

In our view, consulting companies apply models and methods of analysis and assessment of effectiveness (as well as its provision in the activities of organizations) based on the principle of complementarity, treating them as conceptual alternatives for research. In the future, the development of the scientific task, which involves conducting such analysis and assessment, will consist in the precise selection and reasonable combination of the methodologies presented in this article.

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