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DEVELOPMENT OF A CLASSIFICATION OF STRATEGIES FOR OPERATING ACTIVITIES OF AN INDUSTRIAL ENTERPRISE

Innola Novykova,
Doctor of Economic Sciences, Professor,
Visit-Professor of Baltic International Academy, Latvia

Viktor Leshchynskyi,
Candidate of Sciences in Public Administration,
National Expert Construction Alliance of Ukraine, Ukraine

Abstract. The article examines the issues of assessing the effectiveness of the strategy of the operating activities of industrial enterprises. The operating strategy of an industrial enterprise shows a method of production and sale of products that has certain quantitative parameters. The indicators of the enterprise's operating activity depend on the efficiency of the use of working capital, which ensures the uninterrupted nature of production and sales of products. However, the classification models of working capital management strategies that exist in economic theory are characterized by a number of significant shortcomings, the main of which is the lack of quantitative parameters that make it possible to draw a clear line between different types of strategies. We have proposed to build a production function in which the volume of production and sales of products is considered as a target indicator that depends on two factors – the volume of working capital and the duration of their turnover. The study of this function showed that, depending on the behavior of revenue, two main groups of strategies for the operation of an enterprise are possible – growth strategies and decline strategies, and depending on how exactly this happens, four options for growth and decline strategies are possible in each group: extreme – intensive and extensive, and intermediate – sub-intensive and sub-extensive. The classification model we have proposed for the eight strategies of an enterprise's operating activity allows, according to financial statements, to determine the type of operating activity strategy used by the enterprise in the analyzed period.

Key words: model, strategy, enterprise, efficiency.

Introduction. The working capital management strategy of an industrial enterprise is the basis, the “core” of the strategy of its operating activities as a whole. It is working capital that makes the entire functioning system of an enterprise work in the process of implementing its operational activities. Working capital in the form of raw materials, supplies, work in progress, funds in settlements ensure the continuous movement of material and monetary resources in an industrial enterprise, create the necessary conditions for the enterprise to perform its main function, which is the uninterrupted production of high-quality products (goods and services) that are in demand by the consumer.

Working capital management ultimately forms the general model of industrial enterprise management, since it is based on making daily decisions aimed at ensuring the achievement of the strategic goals and tactical tasks set for the enterprise management. In other words, the type of strategy for managing working capital of an industrial enterprise determines the type of strategy for its operating activities as a whole. We will construct a classification of operating strategies of an industrial enterprise using the apparatus of production functions. A production function is an economic and mathematical equation that connects variable values of costs (resources) with values of production [1, 2].

Basic theoretical and practical provision. Production functions are used to analyze the influence of various combinations of factors on the volume of output at a certain point in time (static / synchronous version of the production function) and to analyze and predict the ratio of the volumes of factors and output at different points in time (dynamic / diachronous version of the production function).

Production functions can be built for the enterprise and its individual parts – at the micro level, for regional or industry complexes – at the meso level, for the country's economy as a whole, that is, at the macro level, for interstate relations – at the global level. These are the so-called aggregate functions, in which the volume of output is an indicator of the total social product or national income. For an individual enterprise, the production function describes the maximum amount of output that it is able to produce with each combination of the factors of production used, provided that they are used most efficiently. It can be represented by a set of isoquants associated with different levels of production volume [1].

The production function has the following properties [4]:

1) in the absence of at least one of the resources, production is impossible;

2) with an increase in the cost of at least one resource, the volume of output increases;

3) with an increase in the cost of one resource with a constant amount of another resource, the value of the increase in output for each additional unit of the first resource does not increase (the law of diminishing efficiency).

The most famous production functions are:

1) the classical Cobb-Douglas production function without taking into account and taking into account the economies of scale of production;

2) production functions of the Cobb-Douglas type, specifying both autonomous ("Tinbergen's additive") and scientific and technological progress materialized in resources;

3) production functions with constant elasticity of substitution of factors CES (Constant Elasticity of Substitution);

4) a production function with variable elasticity of substitution of factors VES (Variable Elasticity of Substitution);

5) Leontiev's production cost function and a number of others.

It is customary to classify production functions as one-factor, two-factor, and multi-factor, depending on the number of production factors included in the model that have a certain impact on the target indicator of the function. At the same time, the boundary between these types of production functions is to some extent conditional, since factors can have mutual influence on each other, and can be transformed into a form that takes into account this mutual influence and relationship.

The extreme complexity of economic processes leads to the fact that it is theoretically possible to determine the numerical values of the parameters of the production function only for the simplest cases. In reality, the determination of numerical parameters and the practical application of production functions is difficult due to the huge number of factors that have a significant impact on the target indicator of the constructed model, including factors that are not amenable to quantitative formalization.

Traditionally, factors of the production function can be [1]:

1) fixed and/or working capital;

2) labor resources (number of employees and labor costs, taking into account the qualifications of workers);

3) installed capacity of equipment, electricity costs and other indicators.

In our case, the factors of the production function will be working capital and the duration of their turnover. The choice of these factors is explained by their determining influence on the volume of products produced in the course of the operating activities of the enterprise. A model that combines the target indicator – the volume of output – and the factors influencing it is usually called the production function of output. In the production cost function, on the contrary, the volume of output acts as a factor, and the resulting indicator is the amount (cost) of a particular resource required to produce a given volume of output.

The most famous and simple is the Leontief production cost function, which is used in constructing inter-industry balances of production and distribution of products both on the scale of a separate region and the national economy of the country as a whole.

Production cost functions find direct and very wide application in the everyday practice of all industrial enterprises without exception, allowing for a fairly accurate calculation of the need for all types of resources necessary to produce given volumes of specific types of products. In world and domestic practice, computer systems for managing material, labor, production, energy, financial, information and other resources (enterprise management systems such as MRP, ERP and their varieties), based on the corresponding production cost functions specified using standards, have been effectively used for a long time material intensity, labor intensity, capital intensity, machine tool intensity, capital intensity, energy intensity and other types of resource intensity. We can state with satisfaction that production cost functions are extremely widely and successfully used in all industries and in all enterprises without exception, both in the country and abroad, and the use of computer technology makes their use more and more efficient.

There is an obvious correspondence between cost production functions and one-factor output production functions. The simplest (linear) production cost function j type of resource Rj can be represented as a cost function j type of resource Rj can be presented in the form

$$R_j = Rc_j + Rv_j = Rc_j + r_{0j}B, \quad (1)$$

Rcj – conditionally constant part of resource costs j type, but depending on the volume of output, monetary or in-kind form;
Rv_j – conditionally variable part of resource costs j type, depending on the volume of output, monetary or in-kind form;
r_{0j} – resource intensity standard for the conditionally variable part j type of resource in a unit of a given type of product, unit of measure of resource / unit of measure of production;
B – planned volume of production of this type of monetary or natural units

If conditionally fixed costs of some j resource Re, can be neglected, the linear production cost function (1) degenerates into a proportional production cost function:

$$R_j = Rv_j = r_{cj}B. \quad (2)$$

Both linear (1) and proportional (2) cost production functions are fully consistent with the realities of modern production and are widely used. So, in function (2) one can easily guess the analogue of the production cost function of V. Leontiev.

The simplest one-factor output production function can be obtained from the expression for the linear production cost function (1) by simple transformations and subsequent replacement of the indicator B by $maxB_j$:

$$maxB_j = \frac{R_j - Rc_j}{r_{0j}} = r_{0j}(R_j - Rc_j) = r_{0j}Rv_j, \quad (3)$$

max B_j, – the maximum possible volume of production of a product of a given type, determined on the basis of the volume of resource allocated for its production j species under the assumption that the resources of all other species are unlimited, that is, they are limiting for the production of this type of product, monetary or natural forms;
r_{oj} – standard of resource productivity for the conditionally variable part j type of resource required for the production of this type of product unit of measure of production / unit of measure of resource;
$R_j – Rc_j = Rv_j$ – conditionally variable part in the available volume j type of resource allocated for the production of this type of product.

If for some types of resources their conditionally constant part is negligible ($Rc_j \approx 0$), a linear one-factor output production function turns into a proportional one-factor output production function

$$maxB_j = r_{0j} R_j, \tag{4}$$

r_{0j} should be considered in this case as a standard for the overall resource return on the resource j kind.

Since the production of any product requires the involvement of many different types of resources, the maximum possible volume of output of this type of product, based on the established restrictions on the resources used for its production, will be given by the formula

$$maxB = \min_{\forall \in J}[maxB_j] = \min_{\forall \in J}[r_{0j}(R_j - Rc_j)], \tag{5}$$

J – the set of all types of resources necessary for the production of this type of product.

In expression (5), some of the quantities Rc_j can, as mentioned above, be taken equal to zero. The output production function (5) formally looks like a multifactorial one (depending on J factors), in reality, the maximum possible output of products of this type max B is determined by the volume of a single limiting resource (namely, the one that achieves the minimax output value determined by formula (5), and, therefore, function (5) is one-factor. One-factor (as linear and proportional) production functions of output are also widely used in the practice of planning and organizing production. With their help, using formula (5), you can calculate the maximum possible volume of output, based on the restrictions on available production resources and the established standards of resource return.

The deceptive ease of transition of cost production functions of type (1) to output production functions of type (3) and finally to aggregate output production functions of type (5) can create the illusion of ease of use and wide distribution in the practice of planning and managing production of multifactorial production functions in general. However, this is not the case. This can be easily seen if we analyze the simplest two-factor multiplicative output production function of the following type, the output production function of the following form:

$$B = bQR, \tag{6}$$

b – scale factor that matches the dimensions of the left and right sides of the equation, unit B / unit Q x unit R. With a special selection of Q and R dimensions, the scale factor b can be made equal to one;
Q – usually considered as a “qualitative” factor such as “labor productivity”, “turnover (the number of turnovers of working capital)”, “capital productivity” and other similar indicators of the efficiency of the use of production resources (respectively, “number of employees”, “average cost of working capital”, “average the cost of fixed production assets "and others), units of measurement depend on the type of factor;
R – usually considered as a "quantitative” factor characterizing the volume (costs) of the resource, the effectiveness of which will be given by the "qualitative” factor Q. For the above types of factor Q, the corresponding types of factor R will be "number of employees”, "average the cost of fixed production assets”, units of measurement depend on the type of factor.

Both factors in the two-factor multiplicative production function of output (6) must be independent of each other in the sense that knowing (or not knowing) the value of one of them does not help (but does not prevent) from determining the value of the other factor.

In other words, if one of the factors (this is usually a "qualitative” factor) is calculated by the formula

$$Q = \frac{B}{bR}, \tag{7}$$

then, in fact, the two-factor multiplicative production function of output (6) will be used, but only a one-factor modification of the production cost function of the form (2).

Indeed, this "substitution” of one production function for another becomes apparent from the following simple transformations. By analogy with formula (2), we represent the resource capacity τ_e as

$$r_e = \frac{R}{B} \tag{8}$$

and then we express the resource productivity ("qualitative" factor) as the reciprocal of the resource intensity:

$$r_0 = \frac{1}{r_e} = \frac{B}{R}\,. \tag{9}$$

The formal coincidence of (9) and (7) is striking, and for b=1 (as mentioned above, this can be achieved by selecting the dimensions of the Q and R indicators) they are generally identical.

It becomes clear that progress in the use of two-factor multiplicative output production functions of the type (6) becomes possible only when a conscious refusal is made to calculate the "quality" factor Q according to formula (7), and special methods of direct estimation (measurements, calculation) of its value in real time during the production process, based on the internal nature of the factor itself.

The construction of a model with which it would be possible to create a classification of strategies for the operation of an enterprise and identify clear quantitative criteria for attributing the nature of the current activity of an enterprise to a particular strategy will be carried out on the basis of a known indicator of working capital turnover. The classic turnover ratio is an indicator of resource efficiency that characterizes the volume of sales per one euro of the company's working capital.

In addition to the turnover ratio, it is customary to calculate the duration of the turnover of working capital as the ratio of the duration of the analyzed period to the turnover ratio or, accordingly, as the ratio of the average value of working capital to sales volume, multiplied by the duration of the analyzed period. In economic analysis, it is customary to call the volume of working capital a quantitative factor, and the duration of their turnover – a qualitative one, in the sense that "quantitative factors are considered that express a certain quantitative certainty of phenomena (the number of workers, equipment, raw materials, etc.), and qualitative factors determine internal qualities. , signs and features of the objects under study (labor productivity, product quality, profitability, etc.)" [2], although the boundary between these characteristics of factors is very arbitrary.

Let us consider in more detail the indicator of turnover of working capital in the form of its presentation through the duration of their turnover. We write the volume of production (in the form of revenue) B as a function of time t of two parameters: the value of the resource – working capital OC – and the performance indicator – the duration of the turnover of working capital.

In traditional financial analysis, it is customary to measure the duration of the turnover of working capital in days, in this case, in this formula, it is necessary to multiply the ratio of working capital to the duration of turnover by the duration of the analyzed period (usually a year) in days (365/366 or 360, depending on the method of calculation the number of days between dates (exact or approximate). But in order to simplify the record, we will measure the duration of the turnover of working capital immediately in fractions of a year, and thus multiplication by the number of days in the analyzed period is not required.

Find the time derivative of the expression:

$$B'(t) = \frac{OC'(t) \times \Pi O\ \ (t) - OC(t) \times \Pi O'(t)}{\Pi O^2(t)} = \frac{OC'(t)}{\Pi O(t)} - \frac{OC(t) \times \Pi O'(t)}{\Pi O^2(t)}\,. \tag{10}$$

Let's move on to the left side of expression (10) to the growth rate of production $B(t) = \frac{OC(t)}{\Pi O(t)}$, denoting it tB(t). To do this, we divide the left and right parts of (10) into the expression $B(t) = \frac{OC(t)}{\Pi O(t)}$:

$$\tau_B(t) = \frac{B'(t)}{B(t)} = \frac{OC'(t)}{\Pi O(t) \times \frac{OC(t)}{\Pi O(t)}} - \frac{OC(t) \times \Pi O'(t)}{\Pi O^2(t) \times \frac{OC(t)}{\Pi O(t)}} = \frac{OC'(t)}{OC(t)} - \frac{\Pi O'(t)}{\Pi O(t)} = \tau_{OC}(t) - \tau_{\Pi O}(t), \tag{11}$$

$\tau_{oc}(t)$ and $\tau_{по}(t)$ – respectively, the growth rate of the value of working capital and the duration of their turnover.

The expression (11) we have obtained establishes a dynamic relationship between the target indicator – the growth rate of revenue (sales volume) τB(t) and two factors – the growth rate of working capital τOC(t) and the growth rate of the duration of their turnover τΠO(t). This dependence is a two-factor additive production function, derived from the original function, which has the form of a multiplicative production function.

It is obvious that the volume of production and sales of products (revenue) is a complex indicator of the financial result of the enterprise, which is influenced by many different factors, and not only the amount of working capital and the duration of their turnover. Among this multitude of factors, there are also non-formalized ones, the influence of which is difficult or even impossible to quantify, so the creation of a comprehensive model that would take into account all the factors affecting the volume of production and sales of products seems to be an extremely difficult task. Among the income generating factors that can be formalized, price and volume parameters are usually considered, for which various methods of evaluation and management have been developed. In order to ensure comparability of cost indicators, we will consider prices of finished products and prices for material and financial resources embodied in the working capital of the enterprise to be unchanged in the relevant period. In this case, the dynamics of revenue will coincide with the dynamics of the natural volume of production and sales of products. In addition, it is necessary to make the assumption that the volumes of production and sales of products in each period coincide, that is, the presence of a warehouse of finished products is not taken into account, which provides regulation between the discrepancy between these indicators, which inevitably arises in practice.

In our opinion, the presentation of the growth rate of production volume and sales of products (revenue) as a function of such factors as the growth rate of working capital and the growth rate of the duration of their turnover is quite reasonable, especially if the market is not saturated with goods, demand they exceed supply, there is a potential for expanding the sales market for products, and sales volumes can be increased in proportion to the volume of production, and production volume can be increased, first of all, due to effective management of working capital. The study of this dependence is promising for the purposes of creating a classification of strategies for the operation of an enterprise, since it allows you to set the numerical parameters of various options for the interaction between these indicators.

During the study, it was found that exactly eight characteristic variants of the interaction of the two factors considered by us in the production function – the growth rate of working capital and the duration of their turnover – and their influence on the growth rate of output (revenue) are possible. This made it possible to form an idea of the existence of eight possible strategies for managing working capital, and in a broader sense, strategies for the operating activities of an enterprise, and to identify the criterial values of indicators that determine the boundaries between them. The graphical representation of the model is shown in Figure 1.

In Figure 1, the horizontal axis is the growth rate of the duration of the turnover of working capital τΠO, along the vertical – the growth rate of the value of working capital τOC.

Beams P1, P3, P5, P7 are bisectors of right angles of the coordinate plane, on which the absolute values of the growth rate of working capital and the duration of their turnover coincide.

So, the rays P1 and P5 correspond to the directions of the line of an arbitrary isoquant. Beams P3 and P7 are the directions of the gradient and the steepest descent, respectively, that is, the fastest possible transition from one revenue isoquant to another, therefore, on these rays, the growth rates of sales volume have the maximum and minimum possible values, respectively. On the beam P3 are the values of the growth rate of working capital and the duration of turnover, the same in magnitude, but different in sign. Working capital has a positive growth rate, and the duration of turnover is negative.

The company increases the amount of working capital and at the same time reduces the duration of their turnover. This is the fastest way to increase production. Beam P7 characterizes the fastest possi-

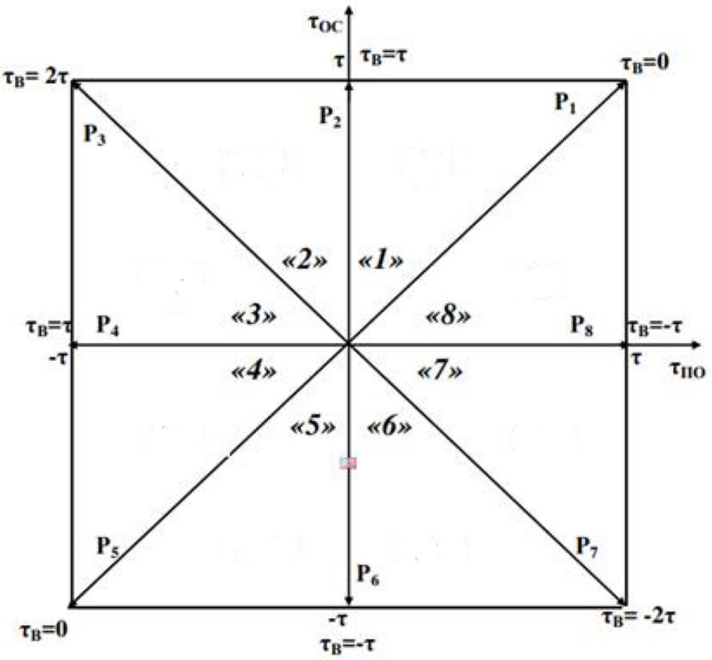

Fig. 1. Graphical representation of eight possible strategies for the operation of the enterprise, depending on the ratio between the growth rates of production factors (volume of working capital τOC and duration of their turnover τПО) and growth rate of output (revenue) τB. Value τ sets the scale for displaying the growth rates of factors and results

ble transition to the isoquant with a smaller volume of production, since it contains the same modulo values of the negative growth rate of the volume of working capital and the positive growth rate of the duration of their turnover. Such dynamics of these factors has a negative impact on the volume of production, since the volume of working capital decreases with a simultaneous slowdown in their turnover. Rays P1, P3, P5 and P7, together with the coordinate axes, divide the entire coordinate plane into eight sectors, in each of which a certain ratio is observed between the growth rate of working capital and the duration of their turnover, which determines the corresponding behavior of the growth rate of revenue. This combination of tempo indicators in the diachronic model determines the strategy of the enterprise's operating activity in each individual case.

Thus, each sector in Figure 1 corresponds to a specific strategy for the operation of the enterprise. In the case when the values of the growth rates of the value of working capital and the duration of their turnover do not fall into the sector, but exactly on one of the eight indicated rays, the analyst can independently choose which strategy to attribute the current disputable situation to.

In our opinion, given the positive dynamics of the previously observed strategies, one can choose the more optimistic option and define the situation as the more efficient of the two strategies, on the boundary of which the values of the growth rate indicators turned out to be. With the negative dynamics of previously established strategies, it is possible to attribute a less effective variant of strategies to the situation and, thus, "anticipate" the predictive values of the strategies.

The numbering of the eight operating strategies of the enterprise begins with the sector located between the rays P1 and P2, and continues in a counterclockwise direction. The first four strategies reflect the growth in production volumes (revenue growth rate τB>0), and this growth is achieved in different ways.

In strategy 1, the studied factors act on the growth rate of production volume in different directions – the growth of working capital has a positive effect, and the increase in the duration of their turnover is negative, but at the same time, the positive growth rate of working capital exceeds the positive growth rate of the duration of their turnover, therefore, an increase in the final result is achieved (volume of production).

In strategy 2, the growth rate of working capital is positive, and the growth rate of the duration of their turnover is negative, in this case, both factors act positively on the increase in production volume. Since in strategies 1 and 2 the increase in the final result is more affected by the increase in working capital than by the change in the duration of their turnover, we can say that in both cases the increase in production is achieved mainly in an extensive way.

Strategy 3 is characterized by the fact that the effect of each of the two factors on the increase in production volume is positive, as in the sector of strategy 2, but at the same time, the factor of reducing the duration of the turnover of working capital in its influence on the final result prevails over the factor of increase in working capital, which can be regarded as manifestation of a predominantly intensive method of increasing production volume.

In strategy sector 4, the growth rate of the volume of working capital is negative, and this negatively affects the growth in revenue, but at the same time, this effect is more than offset by the positive impact on the resulting indicator of the factor reducing the duration of the turnover of working capital. Thus, in strategy 4, the increase in production volume occurs despite the reduction in the amount of working capital, due to the acceleration of their turnover, which indicates an intensive way to increase production volume.

Strategies 5…8 characterize the decline in production volumes (τB0). In strategy 5, this decline occurs under the condition of a faster reduction in the amount of working capital over a reduction in the duration of their turnover, that is, in an intensive way. In strategy 6, the volume of production is reduced in conditions of an outstripping decrease in the value of working capital compared to the rate of increase in the duration of their turnover. In other words, both factors affect the final result negatively, but the company manages to reduce working capital faster than the duration of their turnover increases, and this option can be considered rather intensive. In strategy 7, working capital decreases more slowly than the duration of their turnover increases. As a result of the negative impact of both factors on the value of the resulting indicator, the volume of production falls. Strategy 8 is characterized by a faster increase in the growth rate of the duration of the turnover of working capital over the growth rate of working capital. The slowdown in turnover negatively affects the final result, and the increase in production does not occur, despite the increase in working capital. This option can be considered extensive.

All eight operating strategies of the enterprise were named by us in accordance with their description above, and they were designated by the corresponding abbreviations, in which the following abbreviations were accepted:

I – intense
E – extensive,
S – sub-intensive (mostly intensive),
Se – subextensive (mainly extensive),
G – growth,
R – recession.

These designations of strategies are used in Figure 2.

The value of τ sets the scale for displaying the growth rates of factors – the duration of the turnover of working capital and the size of working capital – and the result – revenue. In Figure 2, the model for classifying the strategies of the enterprise's operating activities is presented in a three-dimensional form.

A three-dimensional image allows you to clearly identify the areas of increasing the financial result (strategy 1...4) and areas of its decrease (strategy 5...8). It is clearly seen that on the rays P1 and Ps the rate of revenue growth is zero, and in sectors 1...4 it has a positive value, reaching a maximum equal to 2τ. on the beam P3, at the point where the growth rate of working capital is equal to τ. and the

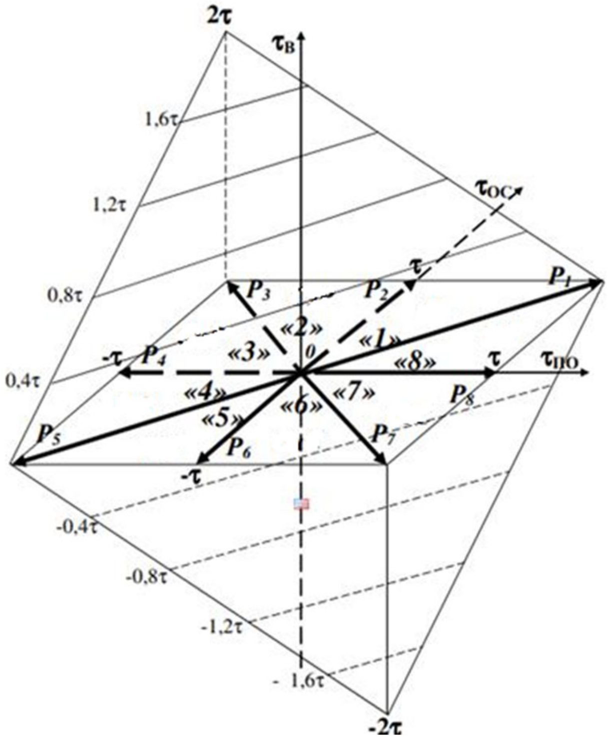

Fig. 2. Enterprise operating strategies (3D model)

Note: the isoquants TB=const>0 are shown as solid straight lines, the isoquants rB=const<0 are dashed, the isoquants TB=const=0 are located along the vectors P1 and P5

growth rate of the duration of their turnover is equal to minus τ. Accordingly, the revenue growth rate reaches a minimum, equal to minus 2τ, on the beam P7. at the point where the growth rate of working capital is minus τ. and the growth rate of the turnover duration is equal to τ.

In order to assess the effectiveness of the strategies of the enterprise's operating activities and arrange these strategies by the level of efficiency, we assigned each of the eight strategies scores in accordance with our understanding of their effectiveness, taking into account the fact that, firstly, intensive strategies are more effective than extensive ones. , and, secondly, output growth is more effective than its decline. To keep the same interval between the evaluations of effective and ineffective strategies, the strategy was given a zero score. Efficient strategies received positive ratings, inefficient ones negative (including zero). As a result, the following scale of scoring strategies for the operating activities of the enterprise was formed (Table 1).

Table 1

Scoring strategies for operating activities of the enterprise

Scoring	Strategy number	Strategy name	Abbreviation
4	4	Intensive growth	IG
3	5	Intense recession	IR
2	3	Sub-intensive growth	SiG
1	6	Sub-intensive recession	SiR
0	2	Subextensive growth	SG
-1	7	Subextensive recession	SR
-2	1	Extensive growth	EG
-3	8	Extensive recession	ER

The highest rating (4 points) was given to the strategy of intensive growth (IG strategy, number 4), since it allows increasing the volume of production and sales in the most efficient way – reducing the volume of working capital while accelerating their turnover. Such a strategy can be applied at enterprises that use the latest methods of organizing and managing production based on the digital economy, introduce innovative technologies, automated production complexes, and apply the principles of lean production. The intensive growth of production volumes takes place in the conditions of the maximum reduction of all excess working capital resources, including through the use of optimization models for operating management.

A high efficiency rating (3 points) was given to the intensive decline strategy (IR, number 5), which is explained by the fact that, in our opinion, the advantage in assessing efficiency should be given not to those strategies that are aimed at increasing production volumes in any way, but to those that which suggest a more intensive variant of the implementation of the goal.

A reduction in the volume of production of a certain type of product or an entire product group can be fully justified and necessary if this product of the enterprise ceases to be in demand, is forced out of the market by substitute goods, gives way to competitive positions with more modern products that better meet the needs of customers. At the same time, it should be understood that the reduction in production volumes can be organized in different ways.

The reduction may be accompanied by the release of working capital and a decrease in the duration of their turnover (intensive path), which should be recognized as an effective option for curtailing production, and may occur in other, less efficient ways, the most inefficient of which is the path of a simultaneous increase in working capital and an increase in the duration of their turnover (an extremely extensive recession option – strategy 8 – ER).

In other words, we can say that strategies 4 and 5 are the most effective strategies for the operation of the enterprise. In these options, the planned growth or the necessary reduction in production volumes is achieved by maximizing the intensification of activities. It is strategies 4 and 5 that to the greatest extent satisfy the currently extremely urgent requirement of sustainable development (sustainable development) as a single enterprise, region, country, and the world economy as a whole.

Strategies that have the term "sub-intensive” in their name are very close to intensive strategies in terms of their effectiveness. Their effectiveness is quite high, so they are assigned fairly high positive scores. Sub-intensive growth in production and sales of products (SiG strategy, number 3) is ensured by the predominant influence on the result of an intensive factor – the duration of the turnover of working capital. The company manages to reduce the duration of the turnover to a greater extent than the amount of resources invested in working capital increases. The SiG strategy receives a score of 2 points.

The sub-intensive recession strategy (SiR, number 6) is comparable in terms of effectiveness to the sub-intensive growth strategy, but is inferior to it in the score, since recession is considered less effective than growth. Due to the predominant action of the intensive factor, when the decline in production is accompanied by the release of working capital, the strategy gets 1 point.

In other words, not only growth, but also a decline in activity can be effectively or inefficiently organized, and strategies 5 and 6 just show the most effective ways to reduce production volumes, in fact, in terms of efficiency, these strategies are analogues of strategies 4 and 3, but in the reduction option production volumes.

Strategies 3 ... 6 reflect predominantly an intensive, more efficient way of the enterprise, which can be called resource-saving production.

Strategies 1…2 and 7…8 characterize predominantly an extensive mode of production, which can be considered resource-consuming, and therefore inefficient. Subextensive strategies receive rather low efficiency ratings, since extensive factors have a predominant influence on the final result in this case.

The subextensive growth strategy (SG, number 2) has a score of zero, which allows for equal intervals between positive and negative strategy scores. In this strategy, the growth of the target indicator is achieved by advancing the growth of the volume of working capital in comparison with the influence of the factor of accelerating their turnover.

The strategy has a neutral assessment of effectiveness, since its application can be explained by forced necessity. At the stage of accelerated growth, for example, in the case when there is a need to ensure an early return on investment in a new investment project, an accelerated increase in investments in working capital is inevitable, which makes it possible to increase the volume of production.

The sub-extensive decline strategy (SR, number 7) is the first of all strategies to receive a negative rating (minus 1 point) due to the fact that the decline in production is accompanied in this case by a significant slowdown in the turnover of working capital. While an understandable reduction in working capital accompanies a decline in production volumes, the negative impact of increasing turnover times outweighs the positive effect of the volume factor.

Strategy 1 (extensive growth – EG) is the least effective of all growth strategies (score minus 2 points), since when it is applied, the growth in production is achieved by accelerating the increase in the amount of working capital while increasing the duration of the turnover of working capital. The use of this strategy can only be due to the objective absence of other opportunities for increasing the volume of production. Finally, the strategy of extensive decline (ER, number 8) has the minimum effectiveness rating (minus 3 points), the implementation of which has a simultaneous negative impact on the target indicator of both factors. The decline in production is accompanied by an increase in working capital and an increase in the duration of their turnover. A more unfortunate combination of factors cannot be imagined.

Conclusions. The operating strategy of an industrial enterprise reflects a characteristic way of producing and selling products (rendering services), which has certain quantitative parameters. The results of the enterprise's operating activities to the greatest extent depend on the efficiency of the use of working capital, which ensures the uninterrupted nature of production and sales of products. However, the model of classification of working capital management strategies into three types that exists today in economic theory – aggressive, conservative and moderate (compromise) – is characterized by a number of significant shortcomings, the main of which is the lack of quantitative parameters that make it possible to draw a clear line between different types of strategies. This makes the traditional classification of strategies inapplicable in practice.

To solve this problem, we proposed to build a production function in which the volume of production and sales of products (revenue) is considered as a target indicator that depends on two factors – the volume of working capital and the duration of their turnover.

The study of this function led us to the conclusion that, depending on the behavior of revenue, two main groups of strategies for the operation of the enterprise are possible – growth strategies and decline strategies, and depending on how this happens, four options for growth and decline strategies are possible. in each group: extreme – intensive (I) and extensive (E), and intermediate – sub-intensive (S) and sub-extensive (Se).

The classification model we have proposed for the eight strategies of an enterprise's operating activity allows, according to financial statements, to determine the type of operating activity strategy used by the enterprise in the analyzed period. We assigned each strategy an efficiency score from minus 3 to plus 4 (including 0), based on the idea that growth is more effective than recession, and the intensive nature of the strategy is more effective than extensive.

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