Delta-result in the production structure of a sustainable enterprise

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Abstract. The sustainability of an industrial region is rooted in the sustainability of the production process itself. Industrial production is strictly focused on the product, which plays a crucial role in production structure. The instability of production is associated with the delta-result, which should be the subject of scientific research. The delta rule is the difference between the result and the product. It categorically grasps the source of instability of the region's production and industrial development as a whole. The interaction of material production and science, as an ideal production, provides the most optimal conditions for managing the complete result of an industrial region's life activity. The article presents the rationale for using the delta-result assessment methodology in the analysis of sustainable development of the region, including the processes of goal-setting and sustainable development. The work results can be used to improve the efficiency of management of both industrial enterprises and institutions carrying out sectoral or territorial regulation.

1 Introduction

The sustainable development of an industrial region can be understood from two sides. As a rule, in this understanding, the logic of induction prevails when thought rises from considering the particular components of an industrial region, its stability and instability in a particular form to some generalizations, generalizing conclusions. Meanwhile, the deductive train of thought, the grasping of the process under study, primarily in its categorical structure, is not excluded. If we solve the problem initially in a general form, we can avoid the fact that we will run into it in each specific, particular case. Expressed categorically, the sustainability of an industrial region's development appears as a production process with a predominance of its integral side. The goal covers the entire act of production and is realized in its product. The more accurately the goal is realized, the more sustainable the industrial region's production and development based on this production. However, the production contains a possible instability source, which is categorically presented in the form of result part that was not foreseen, was not contained in the goal, but happened. It is a delta - a result that arises from the difference between an objective result and a product. The role of the delta-result in the production structure is the subject of this article.

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2 Materials and methods

The article uses the method of hermeneutic interpretation of the interaction of a product (whole) as an objectified (materialized) labor and its purpose, object, and means (parts). The product in such interaction represents an indissoluble whole, and the listed process components represent the parts. The hermeneutic method allows the researcher to be in the constant mutual interpretation of the named components of the production process and its theoretical understanding. Ultimately, the qualitative difference between the delta result also falls within the framework of the method of hermeneutic interpretation and, paradoxically, repeats the logic of this method.

3 Results

Manufacturing is an activity taken concerning its product. Two forms of activity (labor) are involved in the definition of production: living and materialized. Living activity is an activity that is performed in a genuine way, here and now. The goal-setting subject encompasses his actual activity in living activity, such as the activity subject, the means of activity, and the activity's goal. The goal, as the law according to which the activity is carried out, acts as a single basis, synthesizing in the ideal aspect the subject, object, and means. In the object and the means, the goal is beyond its ideal boundaries (thinking, imagination of the subject). As the subject's ideal activity, the goal rolled up into thought, has a material double as "its other": the bodily-sensory activity of the subject in the world of things, which are both objects and means. The subject acts here as a "smart body" (B. Spinoza, 1), embracing itself, an object, and a means in an activity unity. The continuity of living activity is ensured by both the thought (goal) and the subject's practical activity. It is important to note that this continuity contains two aspects: objective and personal-subjective. The goal-oriented entity acts as a "third world" (B. Russell, 2), which differs from the objective component and the activity's personal-subject component.

At the same time, goal-setting is synthetic in nature. When the subject in the process of production activity "follows the contour" (E.V. Ilyenkov, 3) of the forms of the processed objective world, he is determined by the object. Simultaneously, it is not excluded that the subject in his activity deviates from objective forms and realizes the subject's uniqueness (individuality), either depending on the goal setting or on the game of chance, which creates a freedom range for the subject. This problem was investigated even in Epicurus's antiquity, who put forward the argument about the free rejection of the atom against the fatalism of Democritus. Significantly, K. Marx (4, 5, 6, 7) devoted his dissertation on philosophy to this very problem of the relationship between the natural philosophy of Democritus and the natural philosophy of Epicurus. In any case, the moment of individualization of living activity we are discussing cannot but be taken into account in the study of the production process as a whole and its sustainable development, at the different levels (individual, collective, production of the region).

Living activity (labor) is embodied in its product, which holds together the moments isolated in living activity into an indissoluble unity. The product, thereby, creates the basis of reflection over the entire activity process, leading the reflecting subject beyond the boundaries of any of the elements (goal, object, means). The product plays the role of a whole activity concerning its listed parts, and, conversely, the elements of activity play the role of parts concerning it as a whole. The product creates a hermeneutic situation for the production process: the mutual interpretation of parts of the activation process from the standpoint of the whole and the whole's interpretation from the standpoint of its parts. This hermeneutic spiral "whirling" is fruitful for understanding the sustainability of the production process.

In contrast to the goal, the product has the dignity of abstract universality and immediate reality. It allows to critically look back, relying on the maximum possible stability, in which the subjectivity of the goal is significantly eliminated and its objectivity is significantly strengthened. With the product, the subject cannot allow those "liberties" possible with the goal. As we can see, the commonly encountered ratio "end - means" is less fundamental in the structure of production than the ratio "end - product". Each of these moments represents "its other" (GVF Hegel, 8). The goal is the ideally presented product, and the product is the realized goal. The goal is strong in abstract universality but weak in objective validity, foundation. The product is relatively weak in the universal sphere but strong in its practical convincingness, objectivity, immediate given, stubborn singularity. A critical mutual check is carried out between them, during which "three words are not needed" (VI Lenin), dialectics, logic, and the theory of knowledge in them appear as the unity of diversity and the diversity of a single one.

We have paid attention mainly to dialectics and the theory of knowledge woven into the objective production process. His logical side remained in the shadows. Without going into the subtleties of the logical form of the production process, we note that its logic appears in the form of a syllogism, in which the goal is abstractly universal, the means is special, determined from the side of the goal. The object is special, determined from the product's side, and the product is it is a singular one, which has absorbed all the previous components in an indissoluble unity. The product is the conclusion of the "syllogism" of practical activity, the production process. The link "means - object" as a "middle term" mediates the relationship between the goal and the product. This is only one of the possible production cycles (respectively, thinking, reflection). In fact, the logical form requires the detection of all possible cycles to describe the manufacturing process's logic. For example, the logic of "Capital" by K. Marx is built on this principle (4, 5, 6, 7). As extreme terms and the middle term, all production process moments, respectively, and thinking should be enumerated. Only in this case, the picture of real production appears in its natural objectivity and completeness.

Karl Marx notes the fundamental incompleteness and superficiality of limiting political and economic thinking to only one syllogism "General - special - individual": "Production - distribution - exchange - consumption." The dialectical method requires consideration in the form of extreme and middle terms of any of the named social production moments. But even this logical completeness looks, in our opinion, too "rounded" due to one not obvious, but very significant assumption, which is very significant in the framework of the problem of sustainable development of production, and in particular, the sustainable development of an industrial region. The implicit assumption is that we methodologically consider the product as a "one hundred percent" coincidence with the goal as its unconditional and complete embodiment. This, of course, is an assumption that must be eliminated without fail. The product "one hundred percent" never coincides with the goal. The product always overlaps with the target. As an abstractly universal component of activity, production, the goal cannot consider all the peculiar nuances coming from the objective side of the subject is being, from the objectivity of the means and the object. They open only after the fact, based on "turning back", based on reflection, as we have already noted, with reliance on the product. Not even the product itself, but the result.

We believe that it would be methodologically correct to fundamentally separate these two most important categories: the "product" category and the "result" category. The product expresses the correlation of what is produced with the goal. The product is the result covered by the goal. This is what the subject wanted as a result. But the result of the activity (production) is not covered by goal-setting. Most often, a situation arises "they wanted the best, but it turned out, as always." That is, it turned out in a way that was not at all supposed, did not lay in the goals. The result reveals a "non-product", an objective

component that either runs counter to the subject's goal, or goes in line with the direction inherent in the goal, or is neutral concerning it. In any case, there is a distinct objective difference (delta-result), which arises if the product (what they wanted) is taken from the result (from what happened).

Based on the delta-result, a predictive experiment is built, and a model of sustainable production in the industrial region is created. The main factors taken into account in the delta-result are its constructive component and destructive component. The neutral component is usually the last, if any, attention. Meanwhile, this component can become a source of unexpected constructive, creative solutions that ensure an industrial region's sustainable development. The neutral component of the delta-result contains implicit possibilities and always remains a reserve of design solutions. In general, the delta-result requires a special role for itself in the structure of production. A production-focused only on a product contains unavoidable risks in all its constituent points. Failure to consider the delta-result contains the risk of a technological gap, a phase of sharply onset instability, for example, due to a drop in market demand for the company's products.

A technological gap is a form of detecting a destructive delta-result, which was hidden either in the entire production process as a whole or in one of the structural components of this production. The reasons for the technological gap are naturally sought hermeneutically, by spinning back the destructive delta-result, starting the mature phase of the technological gap (the technological crisis as a whole) and consistently interpreting the structural components of the production process in the light of this integral phenomenon of the technological crisis. It seems that it is appropriate to start this analysis with the relatively simplest component of production, namely, with the subject of the production process. The subject most fully represents such a component as the objective component of production, least of all dependent on the producing subject's goals. In this case, they try to see the destructive delta-result in the component that is highly independent of the subject of production. Accordingly, the reason for the technological gap is seen in factors that go beyond the boundaries of subject control. The connection between the subject of production and the causes of the technological gap, as a necessary detection of delta-result phenomenon, is investigated.

Efforts to close the technological gap are aimed at constructive searches for changes in the subject component of production. The means of the production process are subjected to more complex analysis. The point is that a means of production is a symbiosis of an objectively natural component and a subjective component. Therefore, both the naturally objective and subjective components, which are ultimately set by the goals of the subject of production, are subjected to analytical research. As the ultimate cause of a technological gap, the delta-result can be rooted in both the objective natural component and the subjective social, human component. Since we are talking about a means as a "meeting place" of these two components, the "weak link" may be precisely their interaction within the whole means. The technological gap receives a significant complication of the composition of its possible causes due to the complication of the delta-result composition perceived by the subject of production. Complication also arises from the object and means interaction that will fall into the scope of consideration. Finally, one cannot but consider the target component of the production process, which claims to be the law of any production. The goal lays down the definition of the production process components, the combined organization of the producing actions of the subject in the direction of the means to the object, and, finally, the product receipt, as uniting all the previous particular production moments of the whole.

Delta-result is a destructive component that disrupts the sustainable development of an industrial region. It can be hidden in the sphere of goal-setting itself, prioritization, and the like. As we can see, the product expresses the circular technological continuity of the

production process, and the delta-result expresses its discontinuity (discreteness), the technological gap. Discontinuities (delta-results) mean risks of instability in the development of an industrial region. Delta-results and technological gaps, as their manifestations, are the subject of research of the scientific and technical component of the development of an industrial region. What ends the process of producing a product begins the study of the delta-result. The delta-result's scientific and technical modeling is discovering, ultimately, technological gaps and the principal risks of the production process. The risks of goal-setting contain the possibility of two deviations of the goal: 1) in the direction of strengthening the abstract component, which cycles on the subjectivity of the manufacturer's intentions and the forced adjustment of the objective component to these subjectivized schemes.

In this case, the goal-setting subject receives goals that show weak substantiation, insufficient foundation. Accordingly, the productive component of production here is distorted in advance by an excessive deviation into subjectivity, adjusting to the subject's little intentions. The difference (delta-result) in this case exceeds the allowable measure of the consequences of his productive activity, unexpected for the subject; 2) the goal in setting it can also deviate towards the predominance of the single, into excessive detailing of the production process. This does not allow the subject to keep the whole's connections in the sphere of his attention. The situation is also fraught; ultimately, with a technological gap, the risk of crisis phenomena. Due to the importance of both of the noted paths of goal-setting, if they are not excessive, a logical move naturally suggests itself, taking into account a complete set of forms of syllogism, which is productive for the completeness of covering all the points related to goal-setting, to the goal. The enumeration of all possible syllogistic forms is not limited to the movement from the general to the particular, nor to the movement of thought from the particular to the general. The connecting link ("middle term") here is the particular and the individual and the general. It should not be forgotten that the goal is a sphere, an element of an ideal being. Moreover, the ideal is very fragile and subject to fluctuations. Meanwhile, the goal is to be the law of the entire production process and life in general, the development of an industrial region.

The goal-setting head (leader) must be logically (syllogistically) prepared and aware of ideal goal-setting possible deviations under consideration. The goal takes root in means worthy for itself, thereby going beyond the framework of a purely ideal being. The well-known maxim that "the end justifies the means" is problematic. However, the fact that the goal is first checked for objectivity by its means is a statement of fact. The tool takes the goal out of the ideal being sphere and is its first step to the product and the delta-result. Delta Outcome is a threat to the sustainability of the target. A means containing an element of objectivity is also introducing a goal into a risk zone due to the unforeseen consequences of using these particular means. The measure of the "this-sidedness", the objectivity of the goal is also the object itself, to which the subject directs his means. For example, the subject of production builds up his living body with the "inorganic body" of the means and in unity with it (as one whole) experiences himself in a collision with the object. The delta-result in this case receives the most significant significance, it reveals itself in the maximum resistance to the goal's subjectivity. Either it will become plastic concerning the armed means of goal-realization and assume, in the final analysis, the form of the product required by the goal, or it will reveal itself as a predominantly delta-result, as a fundamental non-product. The product is the triumph of the goal over the object, the delta-result is the triumph of the object over the goal.

Through the delta-result, life wedges itself into thought, into the sphere of the ideal being of the subject, which carries an element of abstraction and always, in practical implementation, needs a clarifying adjustment. If we have a normal, well-established, sustainable production process, it should deal with the product and not with the delta-result.

Any fluctuations, as deviations from the target product, are highly undesirable. The product of the manufacturing process must be "highly accurate" when it hits the target. As for, for example, science as a process of knowledge production, then everything looks the other way around. Science is chasing exactly the delta-result, it is “driving into the unknown”. Accordingly, taking into account what has been said, we get the following alignment (fig. 1).

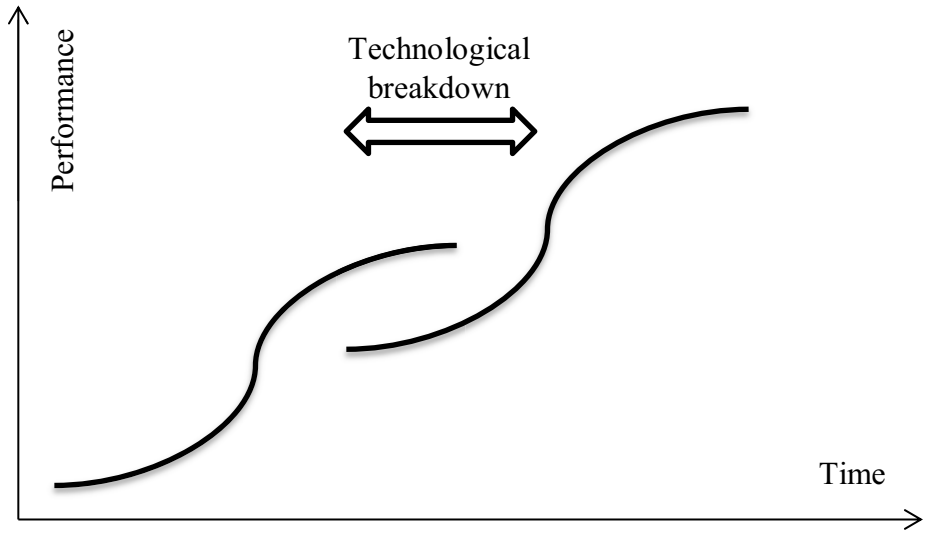

Fig. 1. Foster's S-Curves.

The coordinate system for S-shaped curves of R. Foster has "Result" as ordinate and "Efforts" as abscissa. A technological gap is a manifestation of a delta-result in which increased efforts are not associated with increased production productivity. There is an urgent need to comprehend the delta-result structure and search for its destructive component, leading to a technological gap. Bridging the technological gap involves eliminating destructive elements and constructive and relatively neutral components of the delta-result.

4 Conclusion

The stability of production and industrial development of the region is due to two cycles: the reproduction of the product, which is engaged in material production and the reproduction of the delta-result, which is engaged in science, as the production of knowledge. Science is engaged in the study of a non-product, the objective side of the result. It contributes to the translation of a non-product into a product when new knowledge is built into the goal of a materially producing subject. At the same time, science loses its research interest in the product, as already known. The product, at best, becomes a product or item (semi-finished product). Sustainable development of the production of an industrial region is ensured when the region life result is covered as much as possible by sustainable production in which the region specializes and by a study of the delta-result instability for expansion with knowledge of controlled goal-setting product support. Of particular philosophical interest is the carrying out of the problems associated with the delta-result through the logic that we have considered concerning a product's normal production. It seems that in this case, a heuristically fruitful paradox should arise. In particular, the

accumulation of the production process's productive side is associated with the delta-result accumulation, both in theoretical and practical terms.

The prevention of crisis phenomena in an industrial region, based on a variety of production processes, can be based on fixing the delta-result in the structure of these processes. The number of delta-results of separate production and the totality of all the leading industries of an industrial region contains the possibility of such qualitative transformations that cross the boundaries of the measure and can be indicators of the proximity of a jump-like crisis event. Therefore, the delta-result's control should be organized in the industrial region on an ongoing basis. The logic of producing a product is initially socially constructive; the logic of the production of a delta-result can be threefold. In addition to social constructiveness, it can contain socially neutral components and economically and socially destructive components. The managerial task is to put the process of inverting the delta-result on a stable, mathematically sound platform. For example, ghost cities that have arisen at the once productively powerful regional production sites of certain countries of the world are a direct consequence of the qualitative crisis jump due to the quantitative accumulation of delta-results in various industries in the region. Grasping the phenomenon of delta-result categorically allows not to lose sight of the seemingly imperceptible process that undermines sustainable reproduction in the region's industrial development.

Work has been carried out on this topic for ten years. Its results were used to help categorically reflect on the reorganization of production at the UralAz automobile plant (Miass). As a methodological recommendation, we propose a mandatory categorical comprehension of any practical production problem, considering the point of view of the interaction of meaningfully filled categories of general, particular and individual. Simultaneously, special attention of scientific and technical workers and engineers is drawn to the role of a single delta-result that encourages scientific and technical creativity, which, as a result of research and production, turns into a universally significant product.

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