

METHODOLOGICAL ELEMENTS OF SITUATIONAL ANALYSIS

Tetyana KOVALCHUK

Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine

t.kovalchuk@chnu.edu.ua

Abstract:

The article deals with the investigation of theoretical and methodological principles of situational analysis. The necessity of situational analysis is proved in modern conditions. The notion "situational analysis" is determined. We have concluded that situational analysis is a continuous system study which purpose is to identify dangerous situation signs, to evaluate comprehensively such signs influenced by a system of objective and subjective factors, to search for motivated targeted actions used to eliminate adverse effects of the exposure of the system to the situation now and in the future and to develop the managerial actions needed to bring the system back to norm. It is developed a methodological approach to the situational analysis, its goal is substantiated, proved the expediency of diagnostic, evaluative and searching functions in the process of situational analysis. The basic methodological elements of the situational analysis are grounded. The substantiation of the principal methodological elements of system analysis will enable the analyst to develop adaptive methods able to take into account the peculiar features of a unique object which is a situation that has emerged in a complex system, to diagnose such situation and subject it to system and in-depth analysis, to identify risks opportunities, to make timely management decisions as required by a particular period.

Key words: situation, situational approach, managerial function, situational analysis, diagnostic, evaluative and searching function.

JEL classification: M41

1. INTRODUCTION

In the conditions of high-degree external and internal dynamics, the management of business organizations generally referred to as open socio-economic systems, is complicated by emerging problem situations that often grow into crises. Different problem situations arising in a complex system call for different approaches and solution methods thus limiting the use of model-based managerial decisions. Problem situations are almost impossible to avoid since, given the country's unstable economy, every company is forced to fight to keep its business afloat and search for new opportunities to remain competitive. Situational analysis when used in company management is regarded a most effective tool to deal with the problem. Situational analysis comprises a number of elements and an overall and complete view of the subject organization and its functioning. It helps to efficiently deal with a particular problem situation and find an adequate solution to the problem. [1, p.112]. Thus, building up a management system able to respond swiftly to situation changes and take timely measures to prevent them requires the use of the analytic function and situational analysis potential. Based on a deep understanding of a particular situation and its dynamics, situational analysis should will offer a range of decisions, help to select the most practical line of action from multiple options, make the most effective management decision that will produce maximum possible effect in a given situation, and help develop a system of measures aimed at ways to prevent crisis situations.

Theoretical, organizational and methodological issues of situational analysis have been tackled by both national and foreign scholars: P. Brown, V. D. Gladkov, T. B. Ivanenko, J. Maheim, R. Rich, Ye. G. Novitska, S. I. Liapunov, V. M. Popov, V. V. Filipov, Yu. D. Yurskyi, A. Shapiro and others. However, despite the significance and effectiveness of situational analysis, the scope of its application has not been determined to date (the issues that have been made subject of thorough research efforts are those related to the use of analysis in cases of recurrent situations for long-term business planning and strategy development purposes); its role as a management function is not yet ascertained, its theoretical and methodological foundations are not yet determined; its structural components are not yet identified, no unified methodological approaches are developed (situational

analysis, when adequately used is not always based on a systemic approach); its organizational problems still remain to be solved for which reason situational analysis has not found practical use.

2. RESULTS OF THE RESEARCH

According to Situational Theory, business organizations are treated in the analysis process as open systems that actively interact with the external world. System elements, in their interdependence, interact with each other in a complex way; they interact with external environment elements as well. Such interrelations result in particular situations. Hence, stable and substantial cause-and-effect relationships between interdependent elements of the system. Each situation arising in the complex dynamic system is pre-determined by system elements, by their interrelations existing at the current moment but are products of past events. Such interrelations develop both in time and space. Every new situation the system faces is the result or a feature of the system's functioning.

The objective process of the formation of a qualitatively new system (a situation) brought into existence by changes in elements' interrelationships causes a rapid increase in the entropy of the system as due to the lack of analytical knowledge of the common patterns of their systemic manifestations, their interrelations and their influence on goal attainment. Therefore, the system approach that develops into the situational approach allows to ascertain the unity of the system's interrelated elements that have resulted in a situation, while the situational approach allows to build up an adequate system to deal with the situation. When making management decisions regarding a situation one needs to determine how it influences goal attainment and the results of the business organization's performance, or on the whole system. The solution system must ensure that the appropriate changes take place to adapt the system to the situation brought into existence. Thus, the situational analysis and the system analysis are closely interrelated. The above points provide a substantial ground for defining theoretical and methodological foundations of situational analysis.

Parting from the objective need for situational analysis in situational management, we have concluded that situational analysis is a continuous system study which purpose is identifying dangerous situation signs, a comprehensive evaluation of such signs when influenced by a system of objective and subjective factors, a search for motivated targeted actions to be used to eliminate adverse effects of the exposure of the system to the situation now and in the future and the development of management actions needed to bring the system back to norm.

Thus, the situational analysis should be considered as a system study that allows, as based on the cause-and-effect logic, to reveal, identify and comprehend in due time, signs of irregularities (problem situations), create an ideal qualitative and quantitative representation, or a model, analogical to the whole or to a part of the real thing, that shows the real interrelations between the factors that have brought the situation in existence, determine in terms of quality the influence of the factors on the situation, determine the correlation of the changes taking place in the cause-and-effect relationships between the hazardous factors and the system, reveal changes in the system as caused by the negative influence of the situation now and in the future, work out effective decision regarding each situation.

It is our opinion that situational analysis has three main functions: problem diagnosis, problem evaluation and problem solution searching. Diagnosing a situation means identifying irregularities that already exist or can come into existence in the future. Diagnosing is done on the basis of features common only to this or that irregularity type, determining the nature of the irregularities revealed, taking measures to prevent the irregularities from developing into permanent bottlenecks and thus to keep the system healthy again. Diagnosing is done through a study of cause-and-effect relationships between problem situation and the tactical and strategic objectives of the business organization. The essence of such relationships is as follows. On one hand, there are causes (a system of interrelationships) responsible for the emergence of a problem situation. On the other hand, there are consequences, or effects of the causes. A consequence always has a new feature that its caused did not have. But there is no consequence without a cause. The same cause

does not necessarily lead to the same consequence. This is predetermined by the third component – the cause-and-effect relationship. In doing diagnostic analysis one should identify the conditions that enhance the action of factors leading to problem situations and those that help to eliminate the causes. Thus diagnostic analysis is a problem prevention tool used to eliminate certain signs of the system's poor health before the system gets out of control. Knowing the state of the system at a given moment and identifying problem areas by signs inherent in particular situations, that slow down its development now or will slow in down in the future allow to develop information support for situational analysis as based on relevant information that has essential significance for problem solution at a given moment, and contribute to swift and effective management decisions. The above points lead us to conclude that it is problem diagnosis that problem solution starts from. Problem diagnosis enables us to prevent irregularities, eliminate their causes thus creating conditions for using perturbation control. Diagnostic studies more often than not call for further research [2, p.78].

The methodological principles of situational analysis are based on the dialectical method of cognition that requires a system study of the object of interest with its various relationships, interactions, its constant motion and changes. In view of fact that situational analysis is an uninterrupted process closely observing the state of the system, or the business organization, at a given moment, its methodology should follow the logic of the object of interest. The above considerations and the logic and methodology of scientific cognition that is treated as goal-oriented cognitive activity involving the subject of cognition, cognition methods, goal-oriented cognitive activity by specialists, and cognition process results. The main structural components of situational analysis are: objects, a system of performance indices, factors influencing the object of interest, frequency of analytical assessments, research methods, subjects, sources of incoming and outgoing information. Situational analysis facilitates the study of objects in their current state and development as characterized by their relationship - objective and subjective, internal or external, essential and non essential, simple and complex, inherent and random, causal and uncommon, permanent and transient, permanent and temporary, direct and indirect, recurrent and non recurrent, by interactions between objects, relationships (interdependence of a certain system's elements), unity and struggle of opposites, transition from quantity to quality and of quality to new quality. Analysis enables us to comprehend the internal sources of object motion and development, provides sources of identification of economics hidden in economics itself. The these reasons situational analysis is an important tool exercising active influence on the subject of analysis that is the situation, or, in other words, control the situation.

As is known, a situation is a collection of events, circumstances that develop both in time and space, lead to certain consequences that can take shape and have significance [3, p. 623]. Thus, a situation is a multilateral, complex, dynamic, paradoxical, unpredictable subject of analytical.

Because analysis examines objects through an information system, a major role is assigned to a relevant system of indicators that along with other analysis elements could provide an adequate evaluation of objects, or situations. To achieve most effective evaluation, such indicators, with all their interactions and interdependence, must form a single system to achieve highly-effective evaluation of objects. Such system of indicators is understood to be a collection of interdependent indicators that reflect situations that come into existence in certain conditions, places and time. It is only a system of indicators that can provide an overall study of the object of interest, and evaluate in an objective way the positive and negative changes that take place in the object, create opportunities for identifying the causes of such changes and suggest weighted management decisions. The external study of the object of interest, based on the use of qualitative and quantitative indicators, does not make up a final stage of cognitive process. Its subsequent stage a study of the internal essence of the object of interest, its relationships and development patterns. We cannot overlook any of the factors that influence this or that indicator under study.

Cognition does not end outside the external study that uses quantitative and qualitative characteristics (performance), the subsequent stage of cognition is the essence of the internal review, In terms of economics, factors of a phenomenon or a process are what predetermines the emergence, existence of and changes in the phenomenon or the process [4, p. 32].. The closer we

study the influence of factors on the final performance indicator, the more accurate results we get in the analysis and evaluation of the business organization's effectiveness. Thus studying and measuring the influence exercised by the factors on indicators of interest is a major methodological issued of analysis.

Parting from the fact that each situation is a totally new, internally unstructured situation predetermined by unknown factors, each of such factors influencing the situation in its specific way. To achieve a deep system study of a situation, all the factors that have brought the situation into existence are generally classified into controllable and uncontrollable (t further described as fixed or random or undefined if related to unclearly defined goals or to processes or phenomena that have not been thoroughly studied or to acts performed by competitor organizations or by other economic or political subjects). The variety of uncontrollable factors that influence the situation compels the analyst to act without using a prepared scenario, a program, established analysis methods. To ensure a correct evaluation of all positive and negative factors responsible for the situation under study, to identify the factors of utmost significance and to enable the analyst to arrive at a correct management decision, the situational analysis must be based on the comprehensive system approach. Such approach will enable the analyst to determine the likely effect that will bring about a change in one variable or in a number of variables (management can be improved to cause changes in any of the variables). An erroneous evaluation of the factors will preclude an overall evaluation of related features or the correct use of analysis methods. It should be borne in mind that things will grow complicated if the actions intended to bring about changes will lead to regression or deterioration of the status quo. Situational approach in management provides for a number of alternative ways to achieve the same scheme when making a management decision according to developments that were beyond prognosis. This has been substantiated by M. Hartman who maintains that a problem situation calls for a decision and that the analyst is at liberty to choose a decision. [5]. Thus, to control a problem situation in a goal-oriented way, the analyst must diagnose, identify and evaluate the problem situation and acting on the basis of the results obtained single out most significant factors that brought the situation into existence, comprehend the cause-and-effect relationships, build up a model of the same, conduct a pilot or theoretical analysis of the model, make a model of the behavior of the system, or business organization, using a wide range of criteria to adapt the system to the situation, choose an correct approach and a management method to deal with the situation, assess likely effects of the situational management decision.

Y. S. Zavadskiy who has described specific features of decision-making in the situational management area, stresses that unlike the system analysts who look for properties common to all management systems, situational analysis advocates are mainly interested in identifying specific properties of organizational, information and other systems and strongly recommend that decisions be made according to the specific features of the situation [6, p. 47]. Analysis is conducted when call for by a problem situation. Analysis results will be to a considerable extent predetermined by the human factors, or personal qualities of the analyst. The choice of analysis methods will depend on the specific situation. B. A. Raizenberg and R. A. Fatkhudinov have substantiated that the most effective analysis method of dealing with a problem situation is a method that agrees with the situation and is adapted to the situation to the maximum degree [7, p. 282].

The Cognitive Theory principles when applied to practice, provides an in-depth study of the problem situations by examining the various influencing factors responsible for the existence of the situation. Functional analysis wherein each factor value corresponds with a definite non-accidental value of factor feature, uses a variety of analysis methods including the index method, replacement chain method, absolute and relative differentiation method, integration method, proportional division method, partial participation method. Probabilistic analysis feature correlation and regression analysis, dispersion analysis, principal component analysis.

The second-type analysis referred to above can reveal latent primary causes that explain the relationship between the features of influencing factors and final features of the problem situation and allow to integrate their contents and use in management. The analyst synthesizes the information that reflects the state and dynamics of the problem situation and the data obtained by

way of various cognitive methods and thus becomes capable of giving them a multilateral assessment which is a prerequisite for making motivated management decision aided at desired development of the subject of cognition. Study process makes it clear that a prerequisite of a in-depth cognition of a problem situation is successful development of the object being managed that requires a balanced action of all system elements during the synthesis process; such development can be regarded as information model of a diversified management of the system. However, practice shows that individuals called for to build up required environment, do not always adopt a serious approach to their management duties. The external environment characterized by high-degree entropy together with its unpredictable influence on the problem situation exclude any and all universal management patterns for different problem situations require different problem-solving methods. Nevertheless, traditional analysis methods are used to study a business organizations treated as a stable system and offer standard recommendations for management decision-making. Since a problem situation, or subject of analysis, is a dynamic system, any situational analysis method to be used is expected to be flexible and adequate to the problem. The most effective method to deal with a specific problem situation is a method that to the maximum degree agree with the situation, or a method based on a situational approach to management. However, situational analysis that aims to address a specific problem emerging in a specific situation, does not have a theory or generalization of its own. More often than not, situational analysis uses a system of methods able to study the problem situation and exclude errors.

There is no way to predict well in advance a detailed problem solution. Such task would require a probabilistic approach that offers prognosis with regard to likely effects and give a probability assessment. Another thing that would be needed is ample modeling of informal and poorly structured processes and entropic factors – fuzzy set theory, models for problem situation diagnosis, problem identification models, system analysis methods and techniques, parting from function tree principles [8, pp. 62–75], and qualitative and quantitative evaluation of systems [8, pp. 109–167]. Situational analysis is performed as follows:

- 1) prognostic estimates of the effects are given: $B_k = 1, 2, \dots, n$;
- 2) each effect is assigned a probability index (m_k), $E_{m_k} = 1$;
- 3) criteria are chosen (e. g. maximization of expected proceeds);
- 4) an option meeting the requirements of the chosen criteria is selected.

The function tree method is used to analyze more complicated situations. The decision-making process is divided into the following stages:

1. Validating the goal (maximization of expected value will be used as the criteria);
2. Identifying possible actions to study and analyze the situation;
3. Assessing likely effects and their probability degree;
4. Estimating expected proceeds.

Thus, to provide for methodological support of analysis as a situational management function, we must take into account the peculiar features of the unique situation that has arisen in a complex system. We should not try to regard such analysis methods as universal analysis tools. Validating the structural components of situational analysis will enable us to work out adaptive methods that will help us perform diagnosis and acquire in-depth knowledge of each problem situation and come up with effective decision regarding the situation that has come into existence.

Timely analysis of the problem situation excludes any approach based on the analyst's intuition and the trial and error method as well as effective means to address a problem. Timely analysis serves as a basis for correcting the originally goal as may be required in view of the instability of the commercial activity process and of the changes in the conditions in which the commercial activity is exercised. The results of such analysis will be used as a basis for a timely and motivated correction of a chosen strategy, call for by changes that take place in the market situation. Such results are used in the process of development of marketing tactics and correcting the business organization's plans. Thus, situational analysis is a reliable to neutralize the effects of excessive optimism and underestimation of the real situation, on one hand, and unmotivated fear of failure in view of potential commercial risks, on the other hand. Situational analysis provides an

opportunity to develop and take weighted effective management decisions notwithstanding the existing commercial risks. Analysis of risks in management decision-making is an issue of utmost significance for the Ukrainian economy characterized by a multitude of uncertain factors. Their uncertainty means, first and foremost, potential emergence of unacceptable situations and their negative consequences. The most serious risks that a business organization's managers should be aware of include: uncertain legislative and economic processes; fluctuation of market condition, prices, currency exchange rates, production activity conditions, risks related to international business operations, potential administrative restrictions on foreign trade and other risks. In view of the aforesaid, business organizations' managers should use informal analysis methods (game theory methods and the like). Methods used in situational analysis must be flexible otherwise no analysis, even if goal-oriented, will be effective.

3. CONCLUSIONS

Given the dynamics of the internal environment and the external world, the management of a business organization is complicated by emerging problem situations that often grow into crisis. An effective management system able to respond swiftly to environment changes can be developed through the use of its analytical function and situational analysis.

Aware that analysis is an objective requirement of situational management, we have come up with a more accurate description of the notion "situational analysis". To interpret the situational analysis significance we evaluate the effectiveness of its functions: problem diagnosis, problem evaluation and problem solution searching.

The situational analysis methods are based on the integration of the system and situational approaches. System approach that develops into situational approach has enabled us to ascertain the unity of interacting system elements that have brought about a problem situation. The situational approach has enabled us to form an adequate management system to deal with the situation. It has been made clear that in developing a management decision to tackle a problem situation, we should study its influence on the business organization and on its goals. A decision system in use must ensure that adequate changes take place for the system to get adapted to the situation that has emerged.

The methodological foundations of situational analysis are the dialectic method of cognition. Hence, the methodological elements of situational analysis transform into the dialectic method. Parting from the logic and methodology of scientific cognition, we have offered theoretical motivation of the principal structural components of situational analysis and explained their significance. Substantiation of the principal methodological elements of system analysis will enable the analyst to develop adaptive methods able to take into account the peculiar features of a unique object which is a situation that has emerged in a complex system, to diagnose such situation and subject it to system and in-depth analysis, to identify risks opportunities, to make timely management decisions as required by a particular period.

REFERENCES

1. Levashov, V. (2001), *Ustojchivoje razvitie obshhestva: paradigmy, modeli, strategija* [Sustainable Development of Society: a Paradigm, a Model, a Strategy], Akademija, Moscow, Russian Federation.
2. Mykolaychik, Z. (2004), *Reshenija problem v upravlenii. Prinjatie reshenij i organizacija rabot* [Solutions of Problems in Managerial. Decision-making and Organization of Work], Gumanitarnyj centr, Kharkiv, Ukraine.
3. Azriliyan, A.N. (1994), *Velykyj ekonomichnyj slovnyk* [Great Dictionary of Economics], Pravova kul'tura, Moscow, Russian Federation.

4. Dobrynina, A.I. and Tarasevicha, L.S (2009), Jekonomicheskaja teorija [Economic Theory], Piter Publishing, Saints-Petersburg, Russian Federation.
5. Hartmann, N. (1941), Zur Grundlegung der Ontologie, 2nd ed., De Gruyter, Berlin, Deutschland.
6. Zavadskiy, Y.S. (1997), Menedzhment [Management], Ukrains'ko-fins'kyj instytut menedzhmentu i biznesu, Kyiv, Ukraine.
7. Raiseberg, B.A. (1998), Upravlenie jekonomikoj [Management of Economic], ZAO Biznes shkola "Intel – Sintez", Moscow, Russian Federation.
8. Anfilatov, V.S. (2003), Sistemnyj analiz v upravlenii [Systematic Analysis in Management], Finansy i statistika, Moscow, Russian Federation.