

NECESSITY OF LOGIC USE IN MANAGERIAL RESEARCH

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Abstract: *In the present, the modern development of management science contributes both to the transformation of modern scientific life aspects and to the influence of entire managerial reality modelling process. The degree of complexity reached by managerial mechanisms and processes, as a consequence of science infiltration in all its components, requires more and more use of logic, together with mathematics, statistics, sociology, psychology, legal sciences, etc.*

Focusing our paper on logic, we will approach the following four sub-topics: managerial scientific research, as applied logic; logic laws and their use in managerial research; use of logical structures and operations in managerial investigations; hypothesis and its role in managerial scientific research.

Keywords: *logic, applied logic, managerial research, logic laws, managerial notion, managerial thinking operations.*

JEL Classification: *O8*

1. Introduction

The paper capitalizes on the author's experience, being written with involvement of lived act in the investigation of managerial life and coordination of PhD training.

Starting from the assumption that the work of a scientific researcher is an activity with high intellectual exigency which requires an action-oriented spirit,

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we will attempt to elaborate a guide by this paper for those intending to use logic in managerial investigations carried out.

Our paper intends to ensure logical and methodological scientific support of managerial research. We will treat this entire process from general and theoretical perspective, not as a desideratum but from a more concrete and pragmatic perspective related to the logic activity and needs of scientific researcher. Based on the main knowledge of scientific research management, we will outline the main logical elements in close connection with the investigation of managerial reality (Enescu, Gh.,1967).

2. Managerial scientific research as applied logic

In general, the logical system is created to express the essence of knowledge, in our case of managerial reality knowledge and to serve as arsenal of its movement. From this point of view, managerial science sees all its processes as knowledge processes (Dragomir, C., 2017, p.33). We consider the fact that managerial scientific research, in all its meanings, is based on knowing the managerial reality. This knowledge is scientific because it provides us the truth in a conclusive form. Management functions as form of knowing managerial reality have their well-established place in social life. In this context, logic, as science of scientific knowledge, discovers the laws and forms of movement, thinking and scientific knowledge.

Management, as a branch of science, is applied logically because its thinking rules rigorously apply in this matter.

Logic studies the structure and forms of knowledge movement as a whole, as well as in its different areas, namely in science and management. Logic deduces logical principles and forms from these, stimulating the development of scientific knowledge. As such, it is important for logic to advance the level reached by knowledge, to notice the state and especially the development trends (Bogdan, R., 1974).

Management, like any science, is applied logically, which means that it is a logically organized system of theories. In management science, this construction of logical system has two objectives: to fully identify the results of knowledge; to use accumulated knowledge for obtaining new results (Damaschin, I., 2007).

3. Laws of logic and their use in managerial research

The purpose of each science is to discover the laws underlying and developing those things and phenomena. The essence and general and permanent relations of things are known in this way. The law includes what is identical and permanent in general phenomena and relations between different sides or features of the same thing. The law of things and phenomena is real, objective and independent of human consciousness and will (Copnin, P. V., 1972).

The laws of logic, as laws of correct thinking, reflect the most general and essential relations of the entire reality. They are fundamental because they have universal validity. They act in all thinking operations, as follows: the identity law, which demands thinking to keep ideas with which it operates; non-contradiction law which requires thinking not to consider true at the same time and relation two contradictory statements; law of excluded middle, meaning that if contrary statements cannot be true at the same time, they also cannot be false at the same time and therefore one of them must be true; law of sufficient reason requires thinking to only accept grounded statements and outlines that the truth of consequence results necessarily from the truth of condition (Lupşa, E., 2010).

4. Logical forms, structures and operations and their use in managerial investigations

The main logical forms of thinking are: notion, judgement and reasoning.

4.1. Managerial notions

In managerial theory and practice, the scientific researcher encounters many notions that he/she must understand and use in a scientific mode. The notion is the fundamental element of judgement and reasoning. It reflects the results of knowledge in thinking. It is defined as a complex logical form whereby thinking structures the reflection of characters and essential features of objective things and phenomena.

Generalizations in thinking process are fixed by managerial notions. They were created in the historical process of management development and are acquired during their development due to experience and learning. Managerial notions play an important role in the process of scientist thinking

formation. Managerial notion is a fundamental logical form used in organization management to reflect necessary and general features of a class of managerial phenomena or processes (Negoiță, V. C., 2010).

The content of managerial notion is revealed, first of all, in judgements. Judgement is the reflection of relations between managerial phenomena or their features. Judgement is the enunciation of a managerial act by other, affirmation or denial of certain relations between managerial phenomena or their features.

Other instrument used by logic in managerial research is the relation between managerial notion and reason. Reasoning is exactly the foundation of truth of a judgement on the truth of other judgement. It is the necessary element of managerial thinking process, fundamental logical element consisting of the predominance of primary judgements over managerial phenomena, whereby pre-existing knowledge form new knowledge on phenomena, thus increasing the reasoning capacity by accumulation.

Managerial reality knowledge takes place as sensations and perceptions. Sensations are elementary mental processes consisting of the reflection of simple features of acts during their action on sensory organs. Perception is a synthesis phenomenon which also implies the analysis activity. Analysis and synthesis are closely connected in the perception of managerial phenomena. An important role in the analysis and synthesis activity is the previous experience of scientific researcher. He/she uses observation and representation. Observation is a special perception form used with a certain purpose and carried out systematically. Representation is conceived and treated as an understanding of all intuitive images of managerial phenomena occurring in their absence (Lupșa, E., 2010).

4.2. Operations of managerial thinking

The analysis of managerial thinking operations is the central problem because it provides information necessary for organization management research. Therefore, it is necessary that the scientific researcher knows thoroughly the main mental operations of thinking and uses it to influence scientifically the situation of unit management where it carries out the investigation. The operations of managerial thinking are the following: comparison, analysis and synthesis, abstraction and materialization, generalization and systematization.

Comparison is defined as a mental operation which establishes the similarities and differences between managerial phenomena and processes. The

prerequisite of successful comparison is the confrontation of managerial phenomena and processes from unique point of view. Comparing, the scientific researcher always identifies a certain clue and then establishes how this clue appears in each managerial phenomenon or process.

Analysis and synthesis are other fundamental type of managerial thinking operations. They appear at the beginning in managerial practice, being closely related to it. Analysis and synthesis are closely related. They take part in any managerial thinking process. Analysis refers to the process of mental deconstruction or decomposition of managerial phenomenon in its constituent parts, mental consideration of different features of entire managerial process or phenomenon. Synthesis is the opposite process of analysis and refers to the mental unification of managerial phenomenon or process parts. It can be concrete, namely real.

Abstraction and materialization are inseparable thinking operations. Abstraction refers to a product or operation or even an intellectual sub-product of ascending vertical movement of intellect consisting in the selection, based on discrimination of features or relations of common or general notes, involved in concepts, in our case managerial concepts, by generalization, distillation. Materialization is the opposite process of abstraction and can be understood in many ways. The first meaning is that of treating materialization as recognition or identification of what is general in a concrete object. In other respect, materialization can be an illustration, namely the exemplification of general ideas and principles. Consequently, materialization can be the reconstitution of many abstract elements of concrete object.

Generalization and systematization are also mental operations of scientific researcher. Generalization refers to the process of discovering what is general, common and essential at managerial phenomena. Systematization or classification of managerial phenomena and processes is their mental distribution in groups and sub-groups depending on their similarities (Damaschin, I., 2007).

5. Hypothesis and its role in managerial scientific research

Hypothesis plays an important role in the journey of managerial acts and phenomena known in an isolated way to the discovery of their connections and relations, their essence, objective laws. In the definition plan, the scientific and managerial hypothesis refers to certain theoretical assumptions or anticipated explanations, used in managerial scientific research concerning the knowledge

of an entire class of managerial phenomena to be subsequently verified. Managerial hypothesis is an active creative process of managerial reality reflection. It is based on the characteristic question which distinguishes itself from a simple suspicion. It includes both the question and answer with explanation of addressed question at mental level. Hypothesis in managerial scientific research is a specific form of managerial reality reflection (Sandu, A., 2013).

Conclusions

The use of logic in managerial research is motivated and substantiated in several significant acts: the logical methods are nowadays an efficient means for the theoretical and factual study of managerial phenomena; for managerial research, the scientific processing of observation and measurement data can be carried out by logical methods; the common, logical and precise language for substantiating managerial investigations is that of logic.

Involved in methodical forms of observation, measurement, experiment, logic offers great possibilities of knowing and explaining managerial phenomena.

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