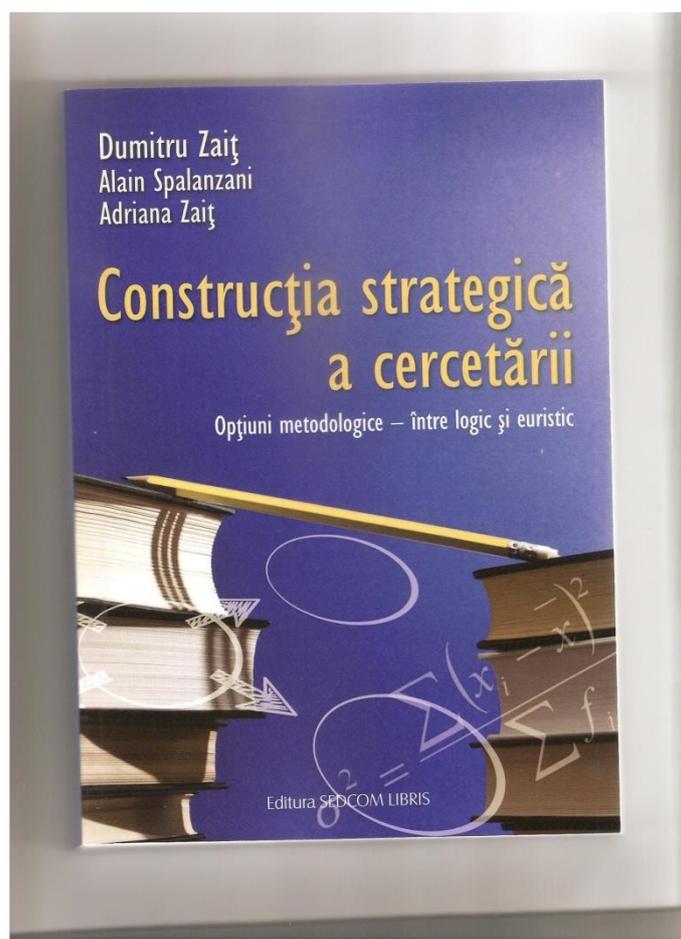


## We recommend:



## English abstract

Scientific research has, now a day, an exponential evolution. Fundamental, applied, exploratory or empirical researches are developed in all the fields, for all disciplines, activity sectors and companies, expectations and results being more or less spectacular. Resources allocated are almost always considerable, but results are rarely of the same caliber. The amplitude, importance and diversity of scientific research, the significance of allocated resources, as well as the importance of results, in comparison with changes in theory and scientific practice, in technology, enterprises and administration require the creation, improvement and adaptation of methods, techniques and instruments of knowledge and know-how, and even innovation in terms of research methodology.

Without talking about the scarcity of really good researches, it is important to interrogate ourselves about the quality and finality of every research endeavor, and from here about the crucial importance of a good research methodology and, implicitly, a good strategic construction of the research approach. Our book does not suggest standards or norms for research methodology, simply because the authors, themselves, discovered that corresponding activities are rarely entirely reproducible, similarities being almost always imperfect. The basic idea that animated us was to integrate, in a coherent and systematic manner as much as possible, different research methods, techniques, procedures and instruments into a flexible framework of methodological choice, open and dynamic, available for researchers looking for the most appropriate ideas and ways for their research questions and hypotheses, so that they could obtain valid results within a reasonable period of time. As a

suggestion born from our approach, presented as a book titled “The strategic construction of research. The methodological choice – between logic and heuristic”, stands the idea that a rigorous research has to be based on a good, valid strategy and the corresponding methodological elements. The consequence of this idea was the structured development of a research philosophy together with its strategy construction, build around the main methodological dimensions, which are always specific, particular for a field, theme or problem for which we need answers, solutions, and anticipations.

Based on this logic, the book proposes a review of the main concepts and ideas, as explicit and coherent as our present knowledge level in epistemology and methodology is required in order to ensure a certain unitary and convergent comprehension of the research approach, no matter of its particular elements. The examination of the basic concepts (methodology, method, technique, procedure, instrument) was an important objective of our book, confusions and errors of expression and logic being often observed and having as main cause the different connotations of these concepts, as definition, content, way of use. On this basis, the construction of the research strategy and the actual research can be correctly developed and be comparable, have the same meaning for researchers in the same field or even other related, applied fields. A total revision of all these concepts is still necessary, on a larger scale, in order to allow a unitary comprehension of research approaches and results. We tried to deal with some of the important differences (quantitative vs. qualitative, method, technique, procedure, for example), accepting the idea that we need to operate with the same philosophy, same principles and a unique logic for all researchers, at least for those from the same field or for similar research problems.

When multiple and quite different acceptations of the same methodological or strategic concept exist, huge confusions are possible and the communication of research results becomes difficult and puzzling. Using the attribute “quantitative” or “qualitative” for surveys, for example, doesn’t seem to be of extreme gravity, but when we actually employ the technique (if it is a technique or a method it’s already another discussion) with everything else accompanying it (population of origin, sampling procedure and investigated samples, appropriated statistical tests, etc.) we are strictly conditioned by the nature of the characteristic – quantitative or qualitative. It’s easy to label survey as quantitative because many other researchers did the same thing before, in their fields. But if we consider the characteristics of a quantitative approach, survey has not many things to do with this attribute. An approach is quantitative if it strictly meets several conditions concerning rigor, precision, positivist epistemological positioning, objectivity etc. The fact that a survey deals, at a certain point in time, with numbers and quantitative data has nothing to do with epistemological and methodological quantitative approaches.

Our book proposes a conceptual unification at the level of different research options between: logic and heuristic; method, technique and procedure; verification and validation; quantitative and qualitative; observation and experiment, etc. This conceptual unification concerns the connotations for each specialized notion of research strategy and methodology, in itself, in comparison with all correspondent senses, including contradictory ones (mutually exclusive options, situations in which certain techniques are not compatible) or those complementarily necessary (cases of methodological triangulation for which a particular data collecting technique requires a specific analysis or interpretation). For example, the logical choice for accomplishing a certain approach is rarely unique, only at a limit (for some purely deductive and quantitative researches), for most of the research approaches several alternatives being possible. The mixture between logic and heuristic is quite present for most of the researches in economics and business (particularly management), research problems in itself being mixed (quantitative and qualitative, at the same time). In order to get to the best methodological choice in such examples we need good definitions and a unitary, coherent comprehension.

The rigor and precision of conceptual definitions are necessary for all scientific approaches, including the anticipation of the whole approach. This is the first moment or step of any research, the time when the investigator makes a strategic choice, essential for his approach. Our book suggests a particular system for the construction of this research strategy, an appropriate schema and the necessary explanations. This generic schema or framework for the succession of operational choices was conceived as a logic diagram, which

establishes the position of five key moments of the scientific approach: the ontological choice (the research problem); the gnoseologic choice (between logic and heuristic as way of argumentation and discovery instruments); the epistemological choice (positioning of the approach between objective and subjective, general and particular, emic and etic); the methodological choice (option for specific methods, techniques, procedures and instruments); and the ideological choice (the passage between the research results and the theory: verification of hypotheses and validation of the research). We used the words « option » and « choice » with the signification of a possible mix of the analyzed elements at that level. A methodological choice, for example, refers to the possibility of selecting among different mixtures or particular combinations of methods, techniques, procedures and instruments and not only the pure option for just one method, one technique etc. described in a manual or previous research. In our book we suggest unitary senses for different concept in research strategy and methodology, allowing for differences in specific areas of application, considering the theory where the concept has to be integrated. As a consequence, we will find propositions of conceptual specification in different chapters:

- **chapter I:** the more or less general connotations of different concepts used in the strategic construction of research and about the epistemological positioning of a research;
- **chapter II:** the relation between logic and heuristic, between common and scientific knowledge; the typological, epistemological and methodological controversies in management (the ambiguity of new scientific disciplines); from the logic and natural accumulation of knowledge to axiomatization;
- **chapter III:** research problem, project and process; research moments and stages – different approaches and philosophies; key variables; methodological choice; development of the ongoing approach: a selection of successive options;
- **chapter IV:** research deepening at documentation level (theoretical, empirical and rational);
- **chapter V:** on research methodology and its dimensions; methodology and strategy or methodological system; semantic and practical differentiations: method, technique, procedure; qualitative and quantitative; observation and experiment;
- **chapter VI:** empirical preparation of the research; sampling and samples; measurability and quantification;
- **chapter VII:** techniques, procedures and instruments for data collection; observations and field studies; survey and its qualitative characteristics; mediate, direct and simulation techniques;
- **chapter VIII:** characteristics of the quantitative and qualitative approach; techniques and procedures for qualitative and quantitative treatment and analysis; mixed methods, techniques and procedures: methodological triangulation;
- **chapter IX:** verification and validation; verification of research hypotheses and statistical hypotheses; conditions for scientific likelihood (correspondence between sample based statistical estimations and the true values for the population of origin); conditions for the research validity (conceptual and structural validity, measurement validity, project fiability, internal and external research validity).

We tried to integrate into the book's structure the most significant and important elements for the accomplishment of a research approach within a complex array of activities and operations involving the appropriate resources and methodological mixtures adapted to the research problem. Methodology is, in our view, the most complex and important dimension of a research. At this level errors are always possible, the researcher being the decisive factor for selecting, justifying and using different methodological elements. We have thus emphasized the importance of the methodological choice for the research strategy and the non equivocal consideration of each element of the methodology.

The book we're presenting is a continuation and further development of complex and important issues of scientific research in economics and management, issues about which two of the authors, Dumitru Zaiț and Alain Spalanzani, have written before and published in Romania („Cercetarea în economie și management. Repere epistemologice și metodologice”, Editura Economică, București, 2006) and France („La recherche en

management et en économie. Repères épistémologiques et méthodologiques”, L’Harmattan, 2008). For this book a third author joined (Adriana Zait), bringing some fresh views on the subject and contributing to the presentation, in what we like to consider a complete and explicit manner, of the integrative perspective about the strategic construction of research. The connection with epistemology and the theory of knowledge, on one side, and the practical issues of research in economics and management, on the other side offers a certain coherence and consistency, giving methodology the right character of support for any scientific approach and providing a certain openness towards different strategic choices. We preferred a sequential approach, for a logic development from anticipation (research strategy and plan) to applied research, and then validation of results. We obtained a text structured into nine chapters, as we’ve seen already, starting with the first ideas on the construction of the research strategy and continuing with all methodological aspect. Certain divagations (on epistemology, knowledge theory, determinant factors for research, etc.) are just supplementary support elements for a better comprehension and implementation of the scientific research process.

The first chapter proposes a new perspective over the strategic construction of research in economics and management, in order to emphasize two essential dimensions for the conception and implementation of a research project. One dimension concerns the anchorage of the research strategy, as anticipation of a project, and the actions, activities and necessary resources for an effective approach (the action dimension of the strategy). The second dimension is obvious at the level of the relationship between the strategic construction of research and its logical support, on appropriate theoretical, philosophical, epistemological, and methodological bases. The epistemological positioning of a research allows its connection to the theory, on one size, and the covering of an array of important conditions for the quality of the research results, in terms of effectiveness and efficiency, on the other side. The novel contribution of this chapter stays in the development of a generic algorithm for the construction of the research strategy in connection with epistemological and operational positioning.

The second chapter is more theoretical and abstract, bringing into discussion the semantic, typological and ontological dimensions of the construction of the research strategy. The motivation for this intermezzo came from the hesitations of the investigator in economics and management between logic and heuristic, between determinist and stochastic approaches when he develops specific researches. The sovereignty and autonomy of the investigator are not absolute, the researcher being conditioned, in its approach, by both objective and subjective factors at the same time, and having to accept the rules and principles of rational action in order to correctly accomplish the research and being connected to other researchers. The strategic and methodological option of the researcher as a function of the particular aspects of its research problem has to be oriented by a minimum of rules and norms, moving between what is founded on axioms and propositions of the existent theories and what has to be newly created and adapted for the particular analyzed situation (knowledge production through continual accumulations).

In a third chapter, really important for the theme of the book, we suggested a general structuring for the strategic construction of scientific research. It is not an entirely new approach, but we integrated into this generic model the essential aspects of this strategic construction, starting with the exigencies of the research problem identification and statement, through hypotheses testing and ending by research validation. A generic framework for a research project was proposed here in order to help young researchers who just started their career or those too dominated by routine and unique previous experiences. Such a project however can never and should never be standardized, as structure and form, being the result of the logic choice of the researcher.

Documentation as research stage was treated in the fourth chapter, through three logical dimensions: literature review, field study and laboratory simulation. These are three manners of capturing available information: the basic theory, the empirical (provider of raw data) and the rational (provider of logical data).

These three forms of knowledge, information and data (if we want a sensitive difference) seem to be banal and easy to get, but they actually require a sound understanding of principles, rules and relational formula in order to identify, collect and valorize them in an effective and efficient manner.

The fifth chapter is consecrated to the treatment of research methodology through its various dimensions: systems and strategies, methods, techniques, procedures and instruments, semantic and operational differentiations. Despite its normative and standardizable character, research methodology is an essential choice of the researcher and cannot be a priori determined. Hesitations and confusions in terms of methodological choice impose clear approaches in order to better and more correctly identify methodological aspects of the research strategy. Thus we presented the essential differences between method, technique, procedure and instrument in research, going for a more general theoretical positioning: the method is the methodology's component that proposes, above all, the supporting philosophy for the scientific approach. So, referring to method in this acceptance, a scientific approach can be abductive, inductive or deductive, quantitative or qualitative, emic or etic (we speak about inductive methods, quantitative methods etc.). The different systems or research strategies can then be derived through different mixtures of methods. Model and modeling were added to the research methodology in order to cover the non-empirical part of the research, at the rational level of data production. And because the construction of research hypotheses is closely related to methodological availability, we integrated this issue into the same chapter.

Aspects concerning the empirical development of the research (data identification and collecting) were treated in the sixth chapter of the book. The accent was on the role and possibilities of putting into practice different methodological elements in order to launch and conduct research projects. Rules and mechanisms for defining units of observation, sampling, measure, estimation, quantification and analysis were defined and explained.

The seventh chapter explains and suggests appropriate manners of action in order to identify, look for and collect data and information. Various techniques, procedures and instruments for a correct and coherent knowledge of the empirical and concrete reality are presented. The typology for data collection was conceived based on the logic of data access considering their origins (sources): direct, indirect and simulation type (calculus artifices and simulation models) techniques, procedures and instruments.

Data treatment and analysis, as well as results' interpretation were explained in the eighth chapter of the book. Three categories of analyses were discussed: qualitative, quantitative and mixed, based on triangulation. The first category considers techniques, procedures and instruments employed for treating, analyzing and interpreting the profound, intimate aspects of the investigated reality, the substance of the research problem. We talk about techniques for which the variables and operators are naturally subjective – for example, techniques as comparison, biographical analysis, critical incidents analysis or phenomenology. The second category contains four classes of techniques: statistical, operational research, elasticity based and actuarial. Every category is presented with essential characteristics and research destinations. In the third category, of triangulation as mixed methods, techniques and procedures approach, we presented the methodological support for complex research problems, identifying a few important rules for ensuring a correct finality and comparability of the research.

The last chapter, nine, was consecrated to three important dimensions of every research: verification or testing (of hypotheses, hypothetical statements, preliminary solutions or anticipations, etc.); research viability; research validity. The book suggests a semantic and logic delimitation of the three dimensions, in order to emphasize the importance of each dimension for the credibility of the whole research.

The content of the book, as final result of our approach, will be useful for all those interested by the subject of scientific research, looking for constructing and putting into practice a correct, effective and comparable research strategy.

## **Content**

Introduction – main reasons and other considerations

### **Chapter 1. The methodological framework**

- 1.1. The strategic building of scientific research
- 1.2. Basic dimensions of the research strategy
- 1.3. Methodological choices
- 1.4. Epistemological positioning of the research
  - 1.4.1. The methodological positivism
  - 1.4.2. The social constructivism
  - 1.4.3. The comprehensive sociology and the functionalism
  - 1.4.4. The interpretivism and the hermeneutic approach
  - 1.4.5. Prerequisites and deviations

### **Chapter 2. Semantic connotations and connections**

- 2.1. Necessary relationships
- 2.2. Between logic and heuristic – the option for the research path
- 2.3. The determinants of the scientific research
  - 2.3.1. The cultural factor of the research
  - 2.3.2. The character – the researcher's qualities
  - 2.3.3. The motivation
  - 2.3.4. Affection and resources
  - 2.3.5. Creativity, imagination, observation capacity and critical spirit
- 2.4. From the ordinary knowledge to the scientific knowledge
  - 2.4.1. The normality of scientific knowledge
  - 2.4.2. The peculiarities of scientific knowledge
  - 2.4.3. The levels of scientific knowledge
  - 2.4.4. Research types
- 2.5. The functions of the scientific theory
- 2.6. Axiomatization or acquisition through change
- 2.7. Management positioning
  - 2.7.1. Typological controversies
  - 2.7.2. Between practice and central cultural issues
  - 2.7.3. Typology of difficulties in management research
- 2.8. Arguments for a reconsideration of scientific research

### **Chapter III. Building and accomplishment of the research project**

- 3.1. Research problem
- 3.2. Research project
- 3.3. Research process and activities
- 3.4. Identification and forms of the research problem

- 3.5. Literature review. The theoretical framework of the research
- 3.6. The aims, the objectives and the hypotheses
- 3.7. Variables' identification. Building of the generic model
- 3.8. Methodological choice
- 3.9. The investigated population and the sample
- 3.10. The collection of data and the experimental design
- 3.11. Treatment, analysis and interpretation
- 3.12. Testing of hypotheses and the validation of the research
- 3.13. Research results and conclusions
- 3.14. Communication and broadcast of the research results
- 3.15. Validation of the project
- 3.16. A research proposal launching

#### **Chapter IV. The Theoretical and empirical documentation**

- 4.1. Literature review
- 4.2. Empirical approach (documentation)
- 4.3. „Laboratory” research

#### **Chapter V. Methodology and method**

- 5.1. About methodology
- 5.2. Methodology and the methodological system or research strategy
- 5.3. Methods, techniques, procedures and instruments
- 5.4. Abduction, induction, deduction
- 5.5. The formulation of hypotheses
- 5.6. Qualitative vs. quantitative
- 5.7. The observation and the experiment
- 5.8. The model and the modeling

#### **Chapter VI. Empirical development of the research: preparation, identification and data collection**

- 6.1. Analytical aspects of the empirical approach
- 6.2. Sampling and sample
- 6.3. Problems and solutions for the possible sampling procedures
- 6.4. Measurement or/and quantification
- 6.5. Measurement process and tools

#### **Chapter VII. Techniques and processes for data collection**

- 7.1. Collection mediated techniques
- 7.2. Collection direct techniques
  - 7.2.1. Observation and empirical collection techniques
  - 7.2.2. The survey technique
  - 7.2.3. Focus-group
- 7.3. Simulation – a special technique of data generation

#### **Chapter VIII. Processing, analysis and interpretation of data and results**

### **8.1. Qualitative approach**

- 8.1.1. The comparative analyses
- 8.1.2. The biographical analyses
- 8.1.3. The critical incident technique
- 8.1.4. The analysis of language
- 8.1.5. The content and form of communication analysis
- 8.1.6. The phenomenology analysis
- 8.1.7. Documents' study

### **8.2. Quantitative approach**

- 8.2.1. The systematization
- 8.2.2. The first correctives: the standardization and the adjustment of data
- 8.2.3. Estimation techniques of the size statistical characteristic
- 8.3.4. Variation estimators: the deviation indicators
- 8.3.5. The correlation and regression techniques
- 8.3.6. The elasticity estimators
- 8.3.7. The operational research techniques
- 8.3.8. The actuarial techniques

### **8.3. Methodological triangulation**

## **Chapter IX. Testing and validation**

- 9.1. Between testing and validation
- 9.2. The hypotheses testing
- 9.3. A few statistical tests
- 9.4. Research reliability and validity
- 9.5. The validation of the theoretical and conceptual structure
- 9.6. The validity and the reliability of the measurement
- 9.7. Internal validity of the research
- 9.8. Research reliability
- 9.9. External validity of the research