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METHODOLOGICAL OPTIONS IN ECONOMIC AND MANAGEMENT RESEARCH

Methodological
Article

Keywords

research methodology,
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Abstract

This article aims to search and formulate a systematic framework for choosing methodology as an essential component of research. The idea originated in quite numerous conceptual and semantic inconsistencies that we have encountered in studies provided at the expense of applied research in economics and management. I did not intend to provide examples, but those situations are not hard to find in different specialized journals, even without reference to the source. Semantic confusion, perhaps less significant in research practice in the areas mentioned, is also pretty present, and it is not at all irrelevant to talk about it, as well. The most delicate aspects of this articles' approach have as origin some logical inconsistencies in combining various methods, techniques, procedures and research tools. The issue of methodological compatibility is important, that's why criteria have to be established in this regard. On the basis of such incursions and critical analysis, the article proposes, with a conclusive character and as possible recommendations, a step by step procedure for the methodological choice, under a logic compatibility between methods, techniques, procedures and research instruments, on one hand, and the nature and characteristics of the field of provenience, on the other hand.

1. **Pretexts in favour of options**

The enshrined works of research methodology, as many as they are, or appear for a long time, develop aspects of the respective issue on the premise that the text will be covered by connoisseurs or, at least, by those interested in research, be they students or doctoral students, practitioners with some experience or junior researchers. Moreover, not infrequently, studies are subject to "standardization" that does not respect the principles of fair methodological choice, admitting that almost any methodological option may be appropriate or at least adapted for solving the research problem. Some semantic misunderstandings are confusing, even when the justification is based on well articulated previous texts, proposed by reference names from the concerned areas, but not as caring about the rigors of approach correctness at the level of "label" or "attribute" associated with a method, a technique, a process or a research tool. Some of these semantic "leaks" or "superficialities", as well as some controversies and methodological disagreements associated with or caused by problems still unsolved, at least for economics and management, as particular pretentious areas, determined me to spend more time on the theme announced by the title of this intervention.

The theme of choosing the necessary methodology for the elaboration of a research is pretty much addressed in the literature, including economics and management. We must remember at least one important fact: beyond a certain homogeneity and standardization in the field, we have numerous controversies regarding the criteria, the basic rules and ways of combining or mixing methodology for conducting fundamental research, applied, action research type, and other types from economics and management. The analysis of the evolution and trends in researches from economics and management has brought important contributions regarding the progress achieved in the implementation of new methodological combinations (see, for example, Carlos Benavides-Verdasco A., et al, 2013). The statement, quite present in studies on research methodology, that the development of any research approach needs reflexive critical thinking to reach a good selection and use (Cole C., et alibi, 2011) is more than reasonable and of common sense. Quite often specific ways of choosing a suitable methodology for each type of research question are proposed (see also D. Walker, 1997), different criteria and selection rules being suggested at the level of methods, techniques, procedures and tools. Beyond such attempts and positioning, the choice of research methodology remains substantially and excessively dependent on subjective factors, quite common being a certain inconsistency of

methodologists and an insufficient analysis of methodological adequacy from the part of various investigators. I have encountered many situations that have raised questions and from here, by aggregation, I was incited to do more research focused on the manner of choosing a research methodology, depending on the research issue and domain of interest. Significant for me were at least four challenges, not really cutting edge ones, but nevertheless important.

1. A first challenge, I would call it "the opportunity of chance 0", was aroused by two of the most fruitful representatives of research in economics and management on the Romanian scene. First, Alexandru Barbat, professor of social statistics in Iasi and coordinator of my doctoral research, proposed me to think about the possibility of a special quantification in economic research, suggesting it would be possible to identify and describe a "social quanta", as accurately as possible, to express in numerical terms processes and phenomena that occur in this area of research and that are subject of the research in question. We have not reached such a quantum innovation, although I always felt the need to use it in my research.

The second name, Petre Jica, follower of the research paradigm based on the rigor of the so called "splitting the hair in four", the "DRAM" as a unit of measure and the "well done work", oriented towards the most subtle details of studies he carried out, was my mentor and guide in my early quest for answers to major questions, for the problems of the pragmatic universe of an enterprise. A character who always questioned everything, he tried for a long time to bring enterprise economics to precise quantitative canons, to convert the facts and economic processes at this level into deterministic causal relationships, rigorously predictable. His philosophy was for quite a long time, maybe until the end of his life, dominated by the belief that enterprise economics can and must be characterized by a determined unique system of indicators, wherein the cause and effect factors are explicitly placed in suitable relationships in order to be used in every exercise of performance, competitiveness and efficiency estimation of such a system. A similar table to the one built by Mendeleev for chemical elements would have been an effective tool for research on enterprise economics. The current relative equivalence between the company's economics and management, and the differences between the socialist enterprise economy (led by the plan and centralization) and the capitalist enterprise management (more volatile, more flexible and adaptable in relation to the market) cannot be discussed at this time, but the idea that Petre Jica tried to capitalize remains generous, by suggesting

the quest for quantitative equivalence in the entrepreneurial activity (in business, ultimately). The lack of a possible axiomatization in economic theory and management makes currently difficult or even impossible to find strictly causal determinants for the relations between uncertain variables of the enterprise life. But the search has meaning and can be profitable for the economic and management research.

2. A second challenge, "opportunity of chance 1", was given to me by what I would call "the use of the survey approach based on questionnaire not as a normal qualitative research technique, but as a bagatelle type quantitative panacea" in more recent research in economics and management. Having originally somehow risky statements, made by authors of notoriety, establishing the quantitative character for the questionnaire-based survey technique has no logical and epistemological solid support. The questionnaire is, *par excellence*, the bearer of questions and answers that concern and contain qualitative elements: related to feelings, subjective perceptions, emotional intensity, opinions or proposals, etc. Placing them on different scales (transposed numerically, not quantitatively) or their statistical treatment does not bring the rigors of quantity to which the attribute would oblige. The investigation remains a questionnaire-based data collection technique that follows the requirements of qualitative approaches. Numerical processing does not bring any data collected (no matter how they went to the numerical values from different methods of scaling) or, much less, the results thus obtained to the actual quantitative dimensions.

3. The third challenge, "opportunity of chance 2", has a more general character, being resulted from a less justified type of standardization in research methodology of economics and management. Journals and specialized magazines with good reputation resort to assess the articles that they receive for publication on bases derived rather from a particular "scientific" habit or custom than a rational logical argument. The schema, for many such journals, is relatively simple: the proposed article should contain a few standard methodological issues: hypothesis, method, tools and a probative component type for the checking of the approach's "suitability" with nature, size or distribution of the data used in research. Issues relating to the analysis of the logic support for the existence or manifestation of the relationships between factors or variables are not considered a priority. From here, many confusions and errors appear, logical, semantic and of connotation, frequent errors for testing and, especially, the validation of results. These articles are «hard», they satisfy the technical requirements

and procedures of those journals, but suffer from an insufficient substantiation of the relationships addressed as rational and methodological grounds of incompatibility.

4. There has been also another serious challenge to develop this study. The "opportunity of chance 3" has a rich dimension, being the product of otherwise normal trends for Romanian scientific research conducted by doctoral students. The theses that I have witnessed, lectured or graded in order to be publicly submitted have also had, as required by the current regulations on the matter, a strategic component announcing the methodology for achieving the approach. Not rare were those theses that drew my attention to some terminological confusion, others for meaning and content as well as the logical incompatibility of some. Going over the abuse of using questionnaire-based survey to address problems wherein the subjective factor does not itself had a role to play (this being by far the most important argument in favour of this technique recourse, to processes and tools that must be a support in its application), the incompatibilities to which I refer above came from associating testing procedures of likelihood estimators with unsuitable samples for distributions that were not available etc. Not infrequently, however, there were associated techniques, procedures and tools available only to qualitative research, based on the positioning of the constructivist or interpretivist philosophy specific to methodological positivism, deduction or causal determinism. Such disagreements, misunderstandings and methodological inconsistencies can result in the obtaining of invalid results even if, technically regarding things, the approach has been taken by correctly following an algorithm. Technical and procedural fairness of the research methodology may be accompanied by logical inconsistencies and serious errors of association.

These challenges would be quite enough to incite me in an attempt to suggest a logical structure of a system for selecting rules of methodology in economics and management research. I will do it in an approach that would rather be inquiring than provider of reference designs for methodological options in research, this subject remaining an open one to the inner subjective referee of the researcher. What follows here is only an approximate scheme of unexplained logic of choice for a suitable methodology.

2. **Qualitative and heuristic dominant of economic and management research**¹

Differences between quantitative and qualitative are not provided by the numerical expression of data or the nature and form of the logical operators used in the data treatment. I make this statement because one of the major confusions that arise and survive in the form of texts from research is provided by at least the imprecision of terminology employed by the two specific attributes. Or, when talking about approach, method, technique or instrument of research in economics and management, even more than in sociology or psychology, I refer only to those areas characterized by subjectivism par excellence, of subtlety and finesse hard to be captured and characterized with certainty and precision, considering (with conviction and not only out of the scientist's pride!) them as «quantitative» almost did not surprise and it is considered normal. But it is quite obvious that these texts determine the quantitative dimension of a methodology in connection to what is easy to see: numerical expression of data and the possibility to use mathematical operations in order to process them. The fact that, for example, the answers to the questions from a questionnaire are brought to numerical differences (extremely vague, relative and imprecise) by using tricks of treatment, scales of various types and any other means of quantifying qualitative data. The real background of data, as an expression of their qualitative characteristics, remains unchanged. They are neither accurate nor safe, nor closer to the subtle essence that they can express. Using a number (1, for example) to express (numerically) one opinion of a particular type and another number (2 for example) to express another opinion, different from the first one, does not show, nor can surprise a natural difference between the two views in themselves, but simply the fact that there is something that makes them different. Because the examples are numerous and we can find them in many studies using questionnaire-based surveys for data collection, labelled as quantitative, let us see which are the most important characteristics or differences between qualitative and quantitative (see Table 1). I only selected those characteristics which allow for the approach to be regarded as "quantitative" or "qualitative" within the meanings required by research philosophy and epistemology over time.

The general most important aspect that can be used as a decisive differentiating argument between quantitative and qualitative relates to the measurable or quantifiable nature of the data the researcher can use to answer his research question. The measurement process assures the maximum possible precision and certainty of data (not only in research!), quantification being still the only

rational artifice through which items for which there are no units of measure or measuring instruments can be transposed into numbers. For every element characteristic for a problematic situation we can design and apply a manner of associating figures or numbers, without being able to guarantee that the operation will ensure accuracy, rigor and comparability of relevant variables for any other situation. Hence the main difference between quantitative (measurable with precision, stability over time and space comparability of data and results) and qualitative (quantifiable with approximation, flexible from a situational point of view, in time and space, with data and results only comparable for the particular cases for which the operation was carried out). The other aspects of differentiation are somehow derived from the measurable or quantifiable character, as well as from the fundamental purpose of the undertaken research (generalizable results or particularizations for specific situations, identifying and explaining the causal relationships or the description and exposure of forms, states, situations, etc.) (See also, D. Zaiț, 2015)

The most important aspect when attaching these attributes to a methodology (and, implicitly, to the research for which it is used), relevant in such a debate, concerns the association of different techniques, procedures and tools with the appropriate methods of their class so that we are able to ensure at this level, as well, the compatibility required for a scientific approach. Otherwise, a routine and mechanic approach can lead to a strange methodological mix for the accuracy and viability of a fair and rigorous research, with valid results. It is important to achieve the correct combination of general methods and inference techniques that are well-suited (methodological compatibility): demonstration, syllogism, for example. There are no such things as standard logics of methodological association, but there are principles of compatibility between methods, techniques, procedures and research instruments (see Table 1).

The heuristic character (infralogic) of approaches in economics and management, which is often too easily ignored, is actually a result of the very nature of issues in these areas (and other areas, as well). Heuristics (as a specific manner of discovery, of doing research, in other words) is not specifically a methodological option but a consequence of a status quo. We associate this consequence (materialized in the imprecise, volatile, uncertain and volatile nature of data) with the manner we assume in conducting that research: with possible and probable approximations, with successive turns back to previous stages, with changes of pace and judgment, with ad hoc adaptations of techniques or procedures etc. We act like this because it is not possible otherwise, we do not have (yet !?) the

necessary methods, techniques, procedures and instruments necessary for a real quantitative approach, accurate and reliable. We thus find a normal and logical relationship between heuristics and qualitative research.

3. **Epistemological dilemmas: rationalization of the methodological option**

Choosing an adequate research strategy is not the result of an arbitrary process, being subject to a number of important factors, not easy to consider in the correct preparation of the approach. Not only the investigated research problem provides the methodological conditions, but also the purpose of the research, the access to necessary data and information, etc. In such a complex "epistemological option", some decisions are binding and we could label this situation as an "epistemological dilemma", because they are less visible and always in the position to induce a certain hesitation.

The first of these dilemmas concerns the manner of addressing the option for solving the problem, which is located between two extremes: logical and infralogical (heuristics). As for other epistemological dilemmas, the choice between logic and heuristics is not solved at the beginning, but it is important to consider its consequences - how methods, techniques, procedures and research tools will be selected, due to this choice. For researches from economics and management with qualitative approaches, the heuristic option is almost natural and quite often is neither sought, nor explained in the study. The subsequent anchoring of methodological elements for an heuristic approach requires the consideration of the probabilistic manner, always adaptable and mobile for the qualitative research question. The option for a logical approach is not excluded for researches in economics and management, but it is conditioned by several restrictions, more rigid, those described for the quantitative approach (see Table 1) being obvious. Problems in these situations are strictly and precisely positioned, the methodological choice being also quite rigidly framed and somehow imposed, the researcher having less freedom in his arbitration process.

A second epistemological dilemma is related to positioning the approach depending on the ultimate purpose or goal of the research, the one that establishes whether the results intend generalization or only solving particular situations. Depending on the purpose, positioning may be at two extremes - universal or particular; for the first one, the obtained results can be generalized, while for the second one, results are associated with solutions concerning particular, individual answers. The orientation for this type of selection is provided by the classical epistemological

paradigms, among which the benchmarks are: **positivism, constructivism and interpretivism.**

As far as the positivist option is concerned, things are quite obvious, the conditions for such positioning being provided by the expected outcome of the research (generalization), as well as by the type of access to accurate data, results of measurements on rigorous instrumental and procedural basis, unaffected by bias. Positivism is a methodological choice suitable for a limited set of issues that can be brought to explaining through abstract rational logic, dominated by objectivism and sustained by axiom and abstract formulas, all testable. For most problems in economics and management the right choice can be made between constructivism and interpretivism, depending on rational or subjective emotional dominants of the problem and therefore appropriate approach. The possible existence of certain mixtures of facts and different judgments for the same problems can be supported in research by a successive appeal to different positionings, accepting the idea that positivism does not exclude constructivist or interpretivist approaches. On one condition: techniques, methods and tools used have to be compatible!

A third dilemma for the methodological option - choosing between quantitative, qualitative or mixed (methodological triangulation) methods - has a solution somehow preconditioned by the results of the previous positionings (heuristic vs. logic, positivism vs. constructivism and/or interpretivism). Strictly speaking, the quantitative approach is a logical-rational choice and positioning of the positivist approach, while the qualitative approach is the heuristic and interpretative option. Mixing quantitative and qualitative (methodological triangulation) is specific to heuristics' option and to constructivist positioning in research, with possible situations that do not fall strictly within this epistemological perspective.

A fourth dilemma concerns the selection of the general method of research, which also requires us to establish how we will get close to the research object. The basic methods are known (deduction, induction, abduction), but how research is placed in each area of action is not explicitly formulated, or is rather left to analysts and epistemologists. This choice remains important, if not essential, the technical and instrumental scaffolding of all research being intimately connected to these methodological philosophies. Deduction is specific to quantitative researches, while abduction is almost always used for initial reasonable explanations, with which later on hypotheses will be generated. Induction serves as the rational and demonstrative interface on the road to generalization.

One last important dilemma is the one where it seems that all researches systematically and consistently stop, including and especially, lately, researches in economics and management. It's what we call the technical choice of methodology for the operational part of the problem solving - the ongoing research. At this level we have the issue of selecting or, where appropriate, develop, adapt or reconstruct a system of techniques, procedures and instruments for identification, searching, data collection, processing, analysis, interpretation, testing and validation. Such a technical set of the research strategy must be valid, reliable and feasible. These conditions can only be fulfilled in connection with the manner in which all the other previous dilemmas were solved. Although we cannot have an absolute correspondence between the technical choice of the problem solving approach and the philosophical, epistemological and ontological aspects revealed by the first four dilemmas, the condition of compatibility for the entire methodological system of the research asks for ultimate rigor in the choice we make. There are techniques, procedures and tools that we label as "quantitative" and which are suitable for treating numerical data, although their meaning and significance define qualitative approaches by excellence. Similarly, there are techniques, procedures and tools labelled as "qualitative" which are used for the analysis of numerical data, although these are usually associated with quantitative approaches.

4. Instead of conclusions: steps in the methodological option (the strategic option of the research)

The methodological option in research is subject of the researcher's judgment and selection, but he has as support in his choice several significant indications he can use to avoid making mistakes and to get to the good construction of his research strategy. In fact, he has some benchmarks that can be used for the correct guidance of the research methodology. Thus he is able to avoid some temptations that might bring to failure by recourse to an improper methodology or, also, the inclusion in its methodological portfolio of techniques, procedures or tools incompatible with the philosophical, epistemological and ontological positioning of his research problem. We cannot provide a standard methodological scheme or unique and invariable choice algorithms, but we can recommend a relative safe route to follow in order not to make fundamental mistakes for such strategic approaches. It is a reasonable way to follow.

The first step in research is always the problem identification, selection, formulation and

positioning, as field of investigation, nature and significant features of the research problem and as desired finality. It is a stage where the researcher positions the problem between ontological and theoretical, between what the specific investigated situation provides and what the theory promises to achieve. The theory generalizes, offering plausible explanations and hints for the search, while the empirical offers relative proofs for theoretical confirmation - denial, for possible generalization or particular cases. The correct research problem specification and positioning provide the first and most important methodological clues. A problem that seeks confirmation or denial solutions from previous results or conclusions for new cases, circumstances, periods of time, etc. already possesses a methodological option (the one previously used in other similar researches) and requires no particular training in this sense - unless the previous methodology was faulty used or incorrectly operated. The research problems with a novel character require the construction of a specific research methodology. The analysis of the problem in question, of the area and available casuistry will methodologically open the research in connection with the nature of the data (accurate and objective results of measurements at one extreme, or probable results, from observations and subjective opinions, at the other extreme) and the estimation potential of relationships (causal or stochastic, single determined or multiple determination, measurable or quantifiable etc.) among factors, variables, states or volatile subjective reactions etc..

A second step is establishing the target for the search and selection of a general research paradigm: generalization (theory confirmation, possibly), explanation or understanding of a particular case, the implementation of an idea or finding certain practical solutions etc. A problem for which causal explanations for factors and variables are sought for can have as final goal the generalization of a statement, in which case it requires the development of validation procedures. Generalization is also a step towards theory building and the research will be dominated by positivism and deduction. The study of particular cases or problematic situations is, however, subject to specific influences, with possible and probable actions, derived from the more or less hazardous character of the interactions to be explained. For these problems, constructivist, as well as interpretivist positioning, together with abduction and induction, are most suitable.

Through a third step, the methodological choice will need an analysis of the elements offered by the empirical side in connection to the theory

that exists for the research problem. We find ourselves in one from several possible scenarios:

- Theoretical confirmation: the existent theory provides or confirms the answer to our question or the solution is offered by the existent theory; in this case we are in the situation of a positivist approach, based on quantitative and deductive methods;
- Theoretical dilemma: the empirical facts contradict the existent theory; the approach that follows will be dominantly quantitative, with a constructivist positioning (with also possible positivist judgments) and will use the inductive method (although deduction is also possible for some aspects of the research);
- Empirical dilemma: facts described by the available data don't exist in the previous theory; the approach is qualitative, with interpretivist positioning (constructivism being involved in some problematic situations) and abduction (induction being sometimes used, especially in the testing phase of reasonable suppositions for the construction of hypotheses).

The fourth step can be considered that of the "selection of a methodology," mandatory in the case of contradictions and novel issues. For research problems in economics and management having significant subjective and specific dominants, the methodological choice may have as support an effective rational route:

- abductive incursion: explanatory and casuistry exploration;
- inductive conclusion: credible response, plausible solution, the path to possible generalization or results validation);
- attemptive deduction.

The last step could be labelled the "technical execution" of research, where the deliberation between qualitative (abduction), quantitative (deduction) and mixed (induction, abduction, deduction) approaches is done. At this level, research can be guided through logical and consistent association of methods, techniques, procedures and tools to outline a strategy to achieve the correct approach. Given that the basic philosophy of research is provided by the selected method, the technical choice can be classified into three categories of methodological portfolios.

The first category could be called abductive arbitration, its bases coming from what the abduction method can provide to research. This method is fundamentally empirical and heuristic, connected to the qualitative analysis and interpretation potential. Its remarkable finality is the identification of significant aspects of the empirical as research object and, on this basis, the construction of the hypothesis. The operational

methodological option will consider techniques, methods and tools specific to observation, survey and simulation. For data processing and analysis, the implementation of the approach can be channelled through techniques, procedures and tools based on association and comparison, assessing correspondences and inconsistencies, analogy, content analysis, language analysis, critical incident analysis.

A second category is related to the level of inductive estimation, the operational methodological choice being focused on identifying proofs and testing hypothetic statements obtained from previous abductive researches or through induction. The final goal for induction and the techniques associated with induction is generally the testing of hypotheses, temporary answers, solutions and anticipations that the initial research obtained, possibly through abduction. Induction can be methodologically associated with techniques, procedures and tools based on statistics, observation and experiments. At the level of data treatment, analysis or interpretation, the options are oriented towards inductive reasoning (full induction, interpolation), analogy, estimation of indicators and indices, correlation and regression, elasticities.

Deductive determination constitutes a third category of operational methodological options and it is situated at the level of theoretical generalizations, supported by the validation of results on abstract bases, and formal and logical operators. Deduction as general research method can be associated with techniques, methods and tools for data searching and collection based on abstractization, formal modelling, mathematical simulation, generation by derivation etc. For processing and analysis, techniques, procedures and tools based on demonstration, logical reasoning, and syllogism are suitable.

These three categories of methodological associations are neither the only ones possible nor strictly determined. The researcher is free to choose, but has to respect certain methodological compatibility conditions, otherwise his research can bring incorrect results, with systematic errors and without credibility. I have not addressed here detailed aspects of the methodological options, those related to various estimators and different logical or interpretative media research and contact sampling, testing and validation procedures choice etc. These are already options specific to each particular case, the researcher having to select them also on a rational basis.

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Notes

1. We must notice here that even in economics and management there are situations and problems for which the solutions can be achieved through quantitative approaches, even if we have fully met the criteria of differentiation that we have considered in this study. Most of the issues and approaches in accounting and finance, as well as some of those associated with micro- and macroeconomics are part of this category. But we do not deal with this, the purpose being to emphasize issues concerning the quality or size of most dominant qualitative research in economics and management.

Tables

Table 1.
Essential differences quantitative – qualitative

Criteria for differentiation	Quantitative	Qualitative
Position of the researcher	Neutral, objective, external and general	Participatory, subjective, internal and particular
Relationship	Causal - Deterministic	Correlative - associative - mediated
Data	Certain, elementary, numerical	Probable, qualitative, complex
Operators	Conventional, explicit and precise	Concrete, implicit and relative
Formal basis	Axiomatic, stable	Dilemmatic, temporary
Reasoning	Demonstration - formal	Argumentative - concrete
Precision of results	No errors	Approximation and flexibility
Text	Specialized, encoded, precise	Natural, free, innovative
Method	Deduction	Induction, abduction
Paradigm	Positivism	Constructivism, interpretativism