Research Anticipation: the Methodological Choice

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Abstract
The establishment of a research strategy doesn't necessarily suppose a specific standardization. Nothing seems to impose to the researcher a projected structure as a basis for his future approach. Our article attempts to identify a few methodological landmarks for a research strategy so that the researcher's approach would have bigger chances to be a coherent one and thus bring results in a shorter period of time and with fewer resources. Furthermore, a research that brings certain results will have bigger chances to be recognized and validated if specialists can also find the necessary arguments for a correct methodological approach. The suggested methodological issues of a research strategy follow a logical succession, developed from the identification of the research problem (ontological option) to the validation of the research results. The choice and the construction of the actual strategy remain an object of the correct positioning of the researcher as far as the accomplishment of his approach is concerned. Our material is just a general schema of the research strategy, not a detailed presentation of every research phase – these details will be part of several other articles.

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JEL classification: O32, O33

1. Context

When we are familiar with an inappropriate routine, we often use that routine in order to solve research problems. The rigor of high level conferences, with blind reviews and notorious names as participants imposes, however, a review and systemization of methodological aspects; without these our papers cannot be accepted, published and considered by specialists for future references.

The methodological option of a research doesn't have rigid patterns, although methodology has a normative character. The methodological option is simply an option, it supposes a selection from a given portfolio of rules, methods, techniques and instruments. The selection or the preference can be rational or

arbitrary. Besides classical research logic we could also talk about a heuristic one. The heuristic logic or the infra-logic is part of the rational choices for a research, even if the approach will thus have a successive development, with a specific probabilistic character and frequent feed-backs from previous stages. Probability and chance can have a rational character in research.

The methodological option allows us to establish a research strategy appropriated for the problems that need to be solved, for the aims and objectives assumed through that research. The methodological component of the strategy is important as an anticipation of the logical possibility of realization of the intended activities necessary I order to solve the problem and validate the results (see fig 1).
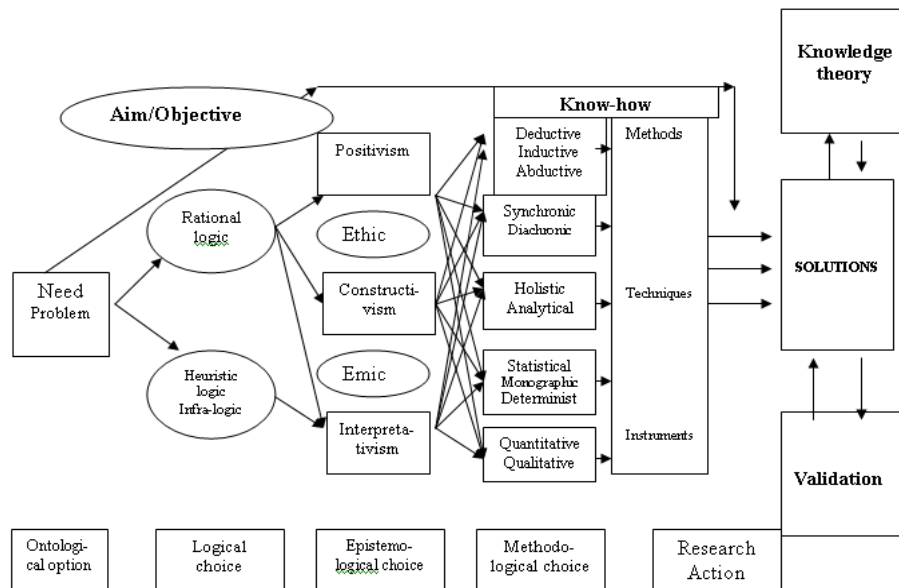
Figure1. Methodological construction of a research strategy

2. Starting moment – research problem definition

The research question substantially affects the methodological option of our strategy. The research problem is, in fact, a logical statement through which the essential coordinates of the situation, state of things, dilemma, contradiction etc. are described, defined and exposed, together with the context and circumstances necessary for its identification. The research problem can have a theoretical character (construction or reconstruction, theory creation or development, contradiction, paradox or theoretical inconsistence etc.), a practical, applied one (social demand, business or organizational need for efficient solutions in difficult situations, anticipation needs etc.) or a mix character (apply, develop or reconsider statements and theories through the finding and valorization of specific solutions,

testing, validation, generalization etc.) The choice of the research problem is an important moment of the research process, the next steps and the final results and success being significantly affected by the quality of this positioning (knowledge, information relations, availability, etc.).

Depending on the nature and content of the research problem, the enunciation should bring us to one or more questions to which we want to find answers. Through these questions we focus our research in terms of aim, research hypotheses and objectives. Through the construction of the research enunciation we fix or at least suggest the main characteristic of the whole research. Such a research can be situated in one of the following areas: explanatory, argumentative, comprehensive, descriptive or predictive. The explanatory area is the one that should be the most precise and rigorous, especially in the perspective of a quantitative approach. Here we will find connections, relations or interdependencies of causal deterministic, stochastic or mix type. Forays into the imaginative area can be realized in a scientific manner too, but in this case aspects of psychic and emotional nature are dominant, with some comprehensive type character, as well.

3. The logical option

Refers to the manner of constructing the explanation, understanding, description or prediction required by the problem solving. At this level, the choice can be made between rational – scientific logic - and heuristic – infra-logic.

The scientific logic (the knowledge one) suggests a rational development of the approach, within an anticipated succession and with determinations, analyses, generalizations, explanations or solutions in compliance with certain rules, principles and methodological prescriptions, invoking techniques and instruments selected through reporting to previous knowledge about the field, problem or theories of reference. Popper's proposition for a "Logic of research" (see Karl R.Popper, 1981) concerns the way in which the logical analysis of the knowledge process works, sees the research method as a theory of science's method dealing with the manner in which scientific enunciations should be treated according to aims and objectives. This particular logic of research could be considered as the theoretical support of the rational approach in scientific research.

At the opposite direction, but rather in a certain complementarity with rational logic, we find heuristics or infra-logic, a type of approach in which research has a random trajectory, based on a non-programmed succession of steps and stages, with come backs and direction changes as a function of what was already accomplished, of obstacles, improvised solutions, etc. If the mechanisms of rational logic are identifiable and analyzable within a certain methodology, the course and content of infra-logic are mainly determined by elements of psychological nature through which the researcher is subjectively positioning himself towards the object of his research. While rational logic is used by researchers from hard, positive fields, under the influence of obvious causal determinants, infra-logic remains the natural preference for those approaches

dominated by change, random influences, probability and subjectivism. Rational logic needs previous enunciations and an important number of cases, facts and objective data, while infra-logic is useful in particular cases, for different case studies having less precise borders and significantly influenced by subjective interventions. Rational logic is based on measurement and quantification, treatments and analyses that can be repeated or replicated in similar conditions by other researchers, while heuristics has as a fundament the comprehensive description of a certain event, situation, case or very small number of cases. The association between rational logic and quantitative approaches, on one hand, and heuristics and qualitative approaches, on the other hand is quite frequent but not entirely justified, a mix being more and more useful for many of the researches in the social and economic fields. These two logics are or can be accepted as being complementary, suggesting though different inferential styles and methods (G.King and alii, 2000).

4. The epistemological choice

Positions the research towards the problem and the manner in which it is solved, resulting in the establishment of the fundamental landmarks of the future approach. At a theoretical level, the epistemological perspective can be realized through one of the following paradigms: positivism, constructivism or interpretativism. A mix of paradigms could be used, also, but in practice it is quite difficult – it can still be done in different stages of the research approach, through important changes at the principles level.

Positivism is still considered the ideal paradigm in scientific research. The premises for the realization of a research in a purely positivist context can be accomplished in fields and situations dominated by a deterministic causality for which a theoretically axiomatic system is already defined and built. Thus, we can talk about a positivist paradigm, a positivist context and/or a positivist approach when a few principles are simultaneously respected:

- ➢ the analyzed facts or events are independent vis a vis of the researcher (can not be influenced by him);
- ➢ the researcher is objective toward the manner of realization of the research, as well as toward the results;
- ➢ connections, states of things, evolutions are causally determined;
- ➢ the demonstration of truth or correctitude can be realized based on the hypothetic- deductive logic;
- ➢ the approach is realized through concepts that allow measurement, quantitative forms and a formal logical and abstract operationalisation
- ➢ a significantly large number of observations (data, facts, events) is necessary for the theoretical generalization (final aim of the positivist approach);
- ➢ the appeal to reductionism (simplification, modeling, schematization) is possible and favors understanding and explanation through decomposition, analysis and synthesis.

Constructivism is based on the principle of representativeness (see D. Zaiț, A. Spalanzani, 2009) and furnishes the premises of a pragmatic approach, trying to find concrete solutions for concrete problems. Together with representativeness, according to which the concrete reality is a result of "the organization of our representations of a world built through our own experiences" (Le Moigne, 1995), constructivism is based on several other principles:

- reality is the result of successive transformations ("constructed universe") and through knowledge we can become aware of what is possible, we can create a new possible;
- there is a relation of influence between the researcher and the object of his research, a relation objectively necessary;
- understanding and explanation can be obtained through argumentation, thus giving convincing solutions;
- actions or strategies of action are necessary in order to obtain a convenient relation between a certain situation and a certain project of intervention.

Interpretativism is somehow a variant of constructivism, for which the commonly accepted principle is that the researcher and his research object are two inseparable entities of the real world. Among other principles we will find, more or less explicit, elements of constructivism (Weber R., 2004):

- reality is an intentional construction as the result of successively lived experiences and can be known only by appealing to those experiences (phenomenological approach);
- truth is the object of accomplished intentions and can result from the matching (interpretation) between the object of research and the life experience of the researcher;
- the matching between object and experience is relative and subjective, and the aims are understanding and the imposing of that understanding.

Interpretativism is assimilated to an ideal metaphysics, dominated by rhetoric and subjective living, and at the methodological level by hermeneutics and phenomenology.

The epistemological positioning is done also by referring to the manner in which the object of research is approached – the reality studied according the selected angle of observation and the aim (generalization or particularization).

At this point a distinction between the ethic and the emic approach[1] is necessary.

Through the ethic approach we can obtain generally, universally results, while through the emic approach particular or individual analyses are done, in order to extract specific aspects characteristic for such a level. The sense of the ethic approach is a general one, based on the objective autonomous logic,

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[1] The concepts "ethic" and "emic" must be related to their origins as words: phon-ethic = the study of producing, transmitting, audition and evolution of sounds, in general; phon-emic = concerning the smallest audible unity of the language, with the role of differentiating the words and the grammar forms of the same word (Romanian dictionary DEX 1998).

developed by the researcher, thus external to the object (reality), suggesting explanations, causality etc. For the emic approach the intention is oriented toward the intimacy of the object (reality), based on a logic specific for that object or reality, being by excellence interpretative.

5. The methodological reference

Establishes the fundamental landmarks concerning the manner of describing, explaining, understanding. The first such landmarks are those that establish the philosophy, principles and general rules for the problem and research approach. These methodological elements are generically called method(s) and represent the anticipation of the way in which the rationing process will be developed (constructing hypotheses, anticipating solution, estimating, predicting etc.), the vision of the field, problem, analyzed sector (whole/detail/global/ analytical/sequential/casuistic; evolutive /dynamic /static / punctual, etc.), the position toward the object of the research (external/internal; generalization/ particularization) etc. Therefore, as a manner of realization, the methodological approach can be abductive, deductive or inductive:

- Abduction = inferation of a cause in order to explain a consequence (an effect); admits several explanations for those consequences; may produce incorrect results; introduced by Aristotle - the syllogism through which a major premise is considered true (correct) while a minor premise is considered just likely;
- Deduction: derivation of a consequence from an enunciation; derivation of a consequence from what is assumed – a valid deduction guarantees the truth of a conclusion as long as it is based on true suppositions;
- Induction: inferation of a likely consequence from a multitude of possible states; inferation of likely antecedents as results of observation of multiple consequences; in order to be true, induction needs empirical evidence.

The manner of realization of the scientific approach (data collection, treatment, analysis, interpretation, generalization) can be quantitative, qualitative or a mix, defining what we label as "scientific research method" in the largest sense possible. Quantitative methods suggest an objective approach of the reality, with precise techniques and instruments, through appeal to general logical judgments in order to obtain explanations or testable predictions. Qualitative methods use interpretation, usually subjective, in compliance with what can be observed, directly or mediated, for individual or small groups manifestations, appealing to a naturist description, to relations between subject and object etc. The mix of the two methods can be realized through what is labeled as "methodological triangulation".

Methodologically speaking, the choice can be done between synchronic or transversal or cross sectional (at a certain given moment or very short period of time) and diachronic or longitudinal (in evolution, for long periods of time); between holistic (at total, system level), individual or particular; between

analytical, general or sequential; between experimental, cvasi-experimental or simulation, etc. Triangulation is possible or recommended in many research situations. No matter what method we choose, it is generally valid for the whole research, in all the stages: data identification and collection, treatment, analysis, results derivation and solution/theoretical generalization.

The method can be applied through appropriate techniques and instruments, adequate for the specific of the problem, set objectives and the nature of the research activity for that particular stage. If the method is general for a research, the techniques and instruments are specific and adaptable within the stages and activities of a particular approach.

6. Research realization

Implies, in the project phase, a research plan, comprising stages, strategies and means for accomplishment. The proposed algorithm of research and the content of the research plan, in terms of activities, means and resources is determined by the logical option or choice (rational-scientific or heuristic/infra-logic), the epistemological choice (emic/ethic or positivism/constructivism /interpretativism) and the methodological one (inductive/abductive/deductive, quantitative/qualitative etc.) For a rational approach, the research algorithm and the content of the strategy will be compulsory conceived with a rigorous, precise structure; for a heuristic approach, the structure will be flexible, continuously adaptable, modifiable as a function of partial or intermediate results, new elements appeared on the way, objective or subjective interventions, etc.

7. Validation

Is the final phase of a research, in the sense of the actual realization of the approach in order to get results – problem solving. The obtained results need validation, they have to be submitted to specific testing and validation procedures before being presented to specialists or target publics, before being accepted as appropriate for a theoretical reconstruction, as solutions, generalizations, new meanings, etc. Validation is integrated, as philosophy, position, accomplishment manner etc. in the theory of knowledge, the one which, according to the field, theory or science, admits, recognizes and imposes – as credible – the results of a particular research. Research results' validation procedures are, at the same time, general and specific. They can be:
- internal: theoretical (intra and inter) and/or empirical (through raportation to facts);
- external: realized by confrontation with other results, other situations, other methods, other specialists which have done similar researches, on the same subject, in similar contexts etc.

The particularity of validation is imposed through those aspects specific for each approach, through the qualities and competencies of the researcher, the nature of the theory or science for which the research is done. Validity and reliability procedures and tests are specific for quantitative or qualitative approaches.

Conclusions

The aim of research is to describe and explain complex phenomena. Any research is based on a research paradigm, as a set of linked assumptions about a certain world or reality shared by a community of scientists investigating that reality. Each scientific research paradigm has to establish at least three basic elements – ontology, or the reality that the researcher investigates, epistemology, or the relationship between the studied reality and the researcher, and methodology, or the techniques, procedures and instruments used by the researcher to investigate that reality. At least three scientific research paradigm are well known and used: positivism, constructivism and interpretativism; sometimes specialists talk about two basic paradigms – positivism and constructivism – and several other intermediate paradigms – interpretativism, realism, critical theory, phenomenology etc. Positivism is associated with hard sciences and quantitative researches, while constructivism with soft sciences and qualitative researches. Choices have to be made by the researcher, who has better chances to have his results recognized if his research has an explicit and appropriate structure, with the appropriate arguments for a correct methodological approach. Our article suggested a possible general schema for a research strategy, with seven phases: context, research problem definition, logical option, epistemological choice, methodological reference, research realization and validation.

References

1. King Gary, Keohane Robert, Verba Sidney (2000), *Fundamentele cercetării sociale*, Polirom.
2. Le Moigne Jean – Louis (1994), *Le constructivism. Tom 1: Des fondements*, ESF Editeur, Paris.
3. Le Moigne Jean – Louis (1995), *Le constructivism, Tome 2: Des epistemologies*, ESF Editeur, Paris.
4. Moscovici Serge, Buschini Fabrice (2007), *Metodologia ştiinţelor socioumane*, Polirom.
5. Popper Karl R. (1981), *Logica cercetării*, Editura Ştiinţifică şi Enciclopedică, Bucureşti.
6. Zaiţ Dumitru, Alain Spalanzani (2009), *La recherche en management et en economie. Reperes epistemologiques et methodologiques*, L'Harmattan, France.
7. Weber Ron, (2004)., *The Rhetoric of Positivism Versus Interpretativism: A Personal View,* MIS Quarterly Vol. 28 No. 1, pp iii