

Research Tools and Steps Used in Economics Science – Theoretical Approach

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Abstract

Starting from the idea that the methodology, as a research system, consists of the use of methods, according to the rigor of a methodology appropriate to the researched subject (Ristea, Franc, 2009, p. 33), constructivist approach in research and tendencies in European system of research we have tried to identify the main research tools and steps used in economic sciences. The conclusions of the study briefly describe the importance of strategic planning made through Horizon 2020 Program in ensuring the competitiveness of European scientific research, and the need to use specific tools to validate research results in a constructivist approach.

Key words: methodology, research approaches, research steps, economic sciences, management

J.E.L. classification: I23, O3, D83

1. Introduction

In the context of the exponential development of knowledge over the last two decades, *"the European Union is the world's leading knowledge base in the world"* and *"Horizon 2020 is the largest EU research and innovation program ever."* (European Commission, 2016, pp. 3-6).

"Despite the economic crisis of the past few years, the EU and its Member States have managed to maintain this competitive knowledge position" (European Commission, 2014, p. 3) and its cultural diversity transforms it into a *"natural laboratory for the social sciences, which can analyse differences in institutions, structures, behaviors and beliefs across European states and relate these to explanations of human interaction"* (European Science Foundation, 2016, p. 3).

Under these conditions, scientific research in the social sciences, in general, and economic sciences, in particular, requires a constructivist approach in which the study of economic and social phenomena can be used on a large scale, such as descriptive statistics, regression analysis, case studies, forecasting and simulations, as well as IT tools for processing and interpreting data and metadata produced and conveyed in contemporary society.

2. Theoretical background. A constructivist approaches in economic sciences

In the constructivist approach of scientific research, we start from the idea that our representations, knowledge or categories that structure the knowledge and representations are the product of human understanding, the human being constructing his knowledge through endless interactions with objects or phenomena.

Conducting a constructivist research involves, for the researcher, work with the actors' representations and the meaning assigned by them, which he observes and interprets for the understanding of social reality. Constructivism, as an approach and current research, defends the thesis of knowledge 'built' by the subject, which serves as a material for the researcher.

After the literature review, we identified four types of constructivist approaches in the field of economic sciences that attracted our attention, namely: basic theory; research action; research of interest; engineering research in management.

The basic theory is an iterative and comparative approach, which can be summarized as follows:

- starting from a first specification of the problem and the working hypotheses, conducting empirical studies on a suitable sample, will allow us to reach a "satisfactory theoretical saturation" (Glaser and Strauss, 1967, p.23);
- modeling of the problem studied in order to understand and find solutions;
- returning to the field study to validate (or invalidate) the model, by testing in practice the applications, methods and tools that emerge from the model;
- the analyse the tests and re-closing the issue.

Thus, Glaser and Strauss (1967, p.113) consider that a theory is valid if it can be both generalized and applicable to each situation. The basic theoretical method is flexible, providing simultaneous explanations and perspectives.

The research action according to Usunier et al (1993, p. 117) consists in the fact that research must lead to change, which means that change is a result of the research process itself. The principle of the effect of research lies in the fact that the best way to learn about a situation is to try to change it. The actors involved in this change must also be involved in the research.

The research of interest according to Martinet (1990, pp. 9-29) is a search "*which has an aspiration for positive transformation*".

In this approach, the researcher does not start from an already formed theory. He is not only content to observe, but will not even intervene directly, as is the case in the field of research. He works to improve things, but remains in his place and gives the actors the opportunity to act with the tools he offers.

Engineering research is in a thorough form of constructive research in management (Chanal et al., 1997, pp. 41-51), the objectives of this research being the composition of working techniques together with the help of field actors, namely:

- providing knowledge in the form of a cognitive model that promotes the understanding of complex processes, in a manner in which learning is easy (from complex to simple);
- creating a design tool (software, model, interpretation grid) to improve the ability of practitioners to learn the knowledge produced in collaboration with researchers;
- the development of new methodological knowledge that complements or enriches existing knowledge.

For Chanal et al. (1997, pp. 41-51), engineering research provides a pre-built interpretation or pre-built heuristics. Engineering research is different from the action of economic research through the following aspects:

- articulation of knowledge through original constructions (providing theoretical coherence);
- the right of ownership of practitioners on research results;
- production of new procedures.

3. General steps of research in economics

In the literature, there are numerous sequential models of the economics research process.

A research process is an iterative process that starts with the establishment of the research theme and the formulation of the research project, the realization of which will allow the achievement of the results and the initiation of a new process. Thus, according to Fr. Wacheux (1997, p.98), a research process, takes place in several stages:

„Step 1. Defining an object and a research question: it is based on literature analysis and/or practice observation (naive induction).

Step 2. Problem and questionnaire formulation (research protocol): allow the definition of the theoretical reference framework and the formulation of anticipated responses (hypotheses or research axes).

Step 3. Empirical observation: involves the conduct of the field verification and/or observation strategy.

Step 4. Treatment, interpretation of data and formulation of conclusions: regard the analysis of collected data and its reporting on theory (such as assessing a difference between questions and outcomes).

Step 5. The presentation of the research results goes through writing, communication, acceptance of criticism, emerging conditions for a new research process".

Methodology means "*that know-how through that can achieve a goal, in general of a research goal, in particular and in special. It provides rules, norms, methods, techniques or practices through which we can get to know how to do, how to apply something we know or have learned, how to go from a vague idea, from a hypothesis to a solution, to a generalization or scientific theory*" (Zaiț, Spalanzani, 2006, p.127).

The problem of the influence on real processes naturally leads to the discussion of the truth in economic science. A good methodology of research involves, including identifying possible deficiencies and criticisms of research, as well as identifying areas for futures research.

The construction and realization of the scientific research project is based on two major stages, namely:

- *identifying the problem under investigation*, this may be a new, innovative idea or a verification of an earlier scientific theory, namely solving some dilemmas and uncertainties. It specifies the way to carry out the research.

- *the development of the research project* is based on a research theme - theoretical, practical (economy, agriculture), some social issues, etc. An analysis plan for the literature is being developed; a plan for structuring research papers; putting the problem and conceptualizing it; choosing and justifying a strategy; operational planning; achievement (field, laboratory, library, etc.) at project level; calculation and interpretation of the results obtained (system choice).

4. Conclusions

Indeed, any research in the field of economic sciences must start, we believe, from the real problems faced by managers/practitioners.

Only research can invalidate or confirm scientific results in this area. As Martinet says (1990, pp. 9-29) considers: "we need a process of permanent equilibrium between observation and abstraction, between the theoretical and the operational side."

The existence of a strategic approach in the European scientific research system is a prerequisite for maintaining the competitiveness of European research, and the operationalization of research strategies through programs and projects is a way to make scientific research more effective at European level.

It is also necessary to validate the hypotheses of research, supported by tools specific to descriptive statistics, simulations and forecasts, in the context in which the research in the economic field, according to the constructivist approach, places the human being in the center, the knowledge being the product of perceptions and human understanding.

Donnadieu and Karsky (2002, pp. 31-39) illustrates very clearly the constructivist approach when writing: "*Knowledge is built in a continuous process of interaction with the empirical world, which is a test ground for the various actions to be undertaken. This is the metaphor of map and territory: the map is not the territory, but the map is linked to the territory.*"

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