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Triangulation as a method of the research in jurisprudence

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ABSTRACT

The purpose of the article is proposing new possibilities in using the triangulation in jurisprudence. This paper consists of two main substantial parts ended in summarizing conclusion. The first component discusses the paradigm of the social science in the context of using the research methods. After that, the essence and meaning of the triangulation were explained. It was the foundation to suggest triangulation as a research method in jurisprudence.

***Keywords*:** social science, jurisprudence, paradigm, pragmatism, mixed methods, triangulation

1. INTRODUCTION

The science „comes from an attempt to obtain the explanation that is systematic and simultaneously controlled in the base of the data, and exactly specific aim of the study is organization and classification of the knowledge established on explanatory rules. Precisely, sciences pursue the discovery and formulating in general terms conditions in which various events happen. Additionally, stating determining conditions is an answer to adequate accidents".

The studies can be divided into deductive sciences, in which new tasks can be acquired through deductive thinking rules from the axioms or primary statements and empiric sciences,

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in which other assignments can be concluded in deductive form from the real task collection or in inductive form as a generalization of the observative tasks, which are the results of conducted measurements. In other words, empiric science is the system of laws, statements and verified hypotheses, containing knowledge of material reality.

Jurisprudence in narrow meaning is a legal theory. They are thought of as parts of social sciences. Their object of study is an analysis of legal norms and political and law institutions. Globally, the legal science is sometimes called jurisprudence (in which case in continental tradition this word means the dogmas of the law, while in Anglo-Saxon tradition it is thought as the general legal science).

The difficulty lies mainly in the fact, that the studies in these sciences include inhomogeneous aspects because the law is a social product. It should be emphasized that it can be as changeable as is the society, as for the sociologists the community does not exist but happens all the time, therefore is dynamic. The study of the social reality is very complicated due to this multidimensionality and dynamism since we can analyse this social reality in many different fields from many different perspectives. This article covers the most important aspects connected with the model of approach applicating in singular study process different methods of research, which aim is obtaining a consistent and complex answer to specific research question [1].

In the literature of the subject from over thirty years exists a dispute between the supporters of intraparadygmatic integration of research methods and the advocates of their interparadygmatic fusing [2-6].

2. TRIANGULATION IN JURISPRUDENCE

One may indicate few solutions, in which there are attempts to overcome this stark division into qualitative and quantitative research. The starting point of these struggles is slowly accepted assumption, that "qualitative and quantitative methods should be perceived as complementary, not competitive". This attitude straightaway lead to fusing quantitative and qualitative research [7].

2. 1. From pragmatism towards triangulation

The view showed above inspired pragmatism, which was earlier dominating among advocates of mixed methods [8]. Gretchen B. Rossman and Bruce L. Wilson were one of the first researchers, who used for them pragmatic justification [9]. Pragmatism allows using any methods in research, regardless of its justification and context. In later developments of pragmatism [10] the research problem, from which depended on the selection of methods, was emphasised, disregarding the paradigm or its philosophical explanation. The pragmatism stance as the basis of the mixed approach is extensively and in detail presented in the literature [11].

The first number of quarterly "Journal of Mixed Methods Research", which originated in 2007 consists following definition of mixed research: "it is a *research* in which the investigator collects and analyses data, integrates the findings, and draws inferences using both *qualitative* and quantitative *approaches* or *methods* in a single *study* or program of inquiry" [12]. The Sage Encyclopaedia of Qualitative Research Methods also invokes the same formulation of these studies' definition [13].

The mere epistemic and methodologic problematic aspects connected with quantitative and qualitative paradigms in research is extended and multidimensional, therefore there is no possibility to elaborate on this topic, even in a summary; one can only signalize its existence. Some of the modern scientists, who are thought as important representatives of the mixed approach go one step further, the methodology as whole they address in an instrumental way and one may say, that they accurately perceive it mainly as a set of equipment serving acquiring knowledge of the world and they avoid eventual epistemological and ontological arguments. Then the mixed research foundation consists of, *primo*, the thesis of compatibility; *secondo*, elements of pragmatic philosophy.

The thesis of compatibility says, that quantitative and qualitative methods are not only not contradictory, but also complementary, therefore they can be applied simultaneously in one research. This attitude relies on conviction, that reality, especially the social one, can be explored in many ways, and every one of them gives the possibility to observe the other aspects of studied phenomena. In turn, according to the pragmatism, in summary, everything that is effective works and results in interesting and accurate effects should be used, regardless of any assumptions, especially philosophical ones. The correct is recognition, that the research problem is much more important than derivate from it specific research methods and techniques [17].

In this place, one should summarize, that in literature one can distinguish three basic types of paradigms, which constitute conceptual back for used in research mixed approach and justify performed in study main ontological and epistemological assumptions [14]. However, the most prevalent paradigm is pragmatism. Its characteristic is "recognition of practical consequences and realistic effects as important parts of meaning and truth". Pragmatism within the stages of research emphasize the research problem, from which the selection of the methods is dependent and which the study approach mixing is advocated. Because of the fact, that the quantitative method bases on deductive reasoning and qualitative on the inductive, pragmatic attitude uses abduction, which "comes here and there between induction and deduction". In consequence, next iterations in the research allow fusing quantitative and qualitative methods. Because of it this paradigm nowadays is mostly widespread between investigators, who use the mixed approach. This conceptualization in literature has many names, for example integrating, synthetic, conceptualization of qualitative and quantitative methods, polimethodical, mixed methodical, however recently there was accepted the name of mixed methods [15,16].

The sources say, that in the modern writings the term mixed methodology is used to describe the third approach or research paradigm, next to the quantitative and qualitative [17,18]. It was created in reaction to the polarization of the quantitative and qualitative strategy that went too far, which resulted in so called paradigmatic wars, which took place from the 1970s to the 1990s, and it was a proposition offering their integration and highlighting the advantages of simultaneously using many different cognitive attitudes [19].

Currently, mixed methods are conducted not only in social sciences, including jurisprudence but also in the medical fields and many more. From the beginning of XX century, their selected elements appeared in inquiring of many different studies, although the broader acceptation and, above all, systematic usage with actual or even mature shape mixed methodology achieved during last thirty years [17].

About her rising popularity in academic environment testify not only international scientific journals such as Journal of Mixed Methods Research (published from 2007),

Quality and Quantity and Field Methods, but also huge number of publications (over 3200 records in universal bibliographical and abstract base SCOPUS from Elsevier enterprise), including monographic non-serial publications and textbooks, as Clark, Creswell 2008, resulting in high degree of reflection at its essence, forms, aims and main rules [13, 15].

Donald Campbell and Donald Fiske, in work "Convergent and discriminant validation by the multitrait-multimethod-matrix" already in 1959 attempted to ask a question, whether conclusions dealing with an accuracy of methods will stay in power if they will be confronted with many complementing data sources [21]. These authors emphasized that fusing different methods in one scientific project allows minimizing any mistake that came from measurement idiosyncrasy, in other words from using an instrument of a certain kind. Proposed by them the analysis of data in form of matrix "many features – many methods" was supposed to determine what is common in these instruments which were "measuring the same" and what is different from these which were measuring "something different". The common part was presumed to define the accuracy of the operationalization of theoretical concept which was measured with different methods.

De facto the essence of Cattel's approach [29, 30] refer to different operationalizations of the same theoretical concept, and a large amount of acquired perspectives were supposed to enrich the knowledge about the subject of the research. This means analysing the data descending from many sources is also the essence of the triangulation strategy. What is interesting the mere concept of triangulation came from the ancient art of navigation and geodesy and means the type of measurement made to determine the relative position of chosen points in the space. This measurement relies on localization of the exact point based on the other two points, laying in a certain distance from each other. This point creates something similar to a triangle and the measurement of their angles and the length of one of its sides is used to determine the placement of a certain point [31].

2. 2. Triangulation as one of the models of mixed research

Parallel triangulation strategy is the most known model of mixed research. Its being relies on gathering at the same time the quantitative and qualitative data and comparing both databases in order to detect any similarities, differences or any other connection. In this model, quantitative and qualitative methods are used separately to attain the balance between the advantages of the one side and downsides of the other side or adding up the benefits of both methods. In this model, data are acquired simultaneously during one stage of the research process. Basically, both methods should be treated equally, but in practice always one of them has primacy. Mere blending the data consists of fusing them, for example, transformation one type of data into the other, thus one can easily compare them; or integration, what means contrasting correlated data. In part dedicated to the interpretation of the study the data are narrated or elaborated. Publicised reports can be examples of such correlations. Results discussed in them enfold main statistical quantitative data, next is qualitative data which may validate or discredit statistical data [28].

Nowadays triangulation is interpreted as a strategy consisting of increasing the completeness and accuracy of the research thanks to considering different perspectives. In triangulation understood in such way in its foundation, there is a conviction that there is not a single best way of acquiring information, because every possible solution allows depicting a properly specific aspect of the investigated phenomenon, introducing simultaneously specific for them burden.

As it is shown above the conception of using many methods at once in research of the occurrence for the first time was introduced by Campbell and Fisk [29], while on the field of the social science methodology the triangulation term was popularized by Denzin [30].

After Denzin, in literature it is said [31] about triangulation of data, investigators, and methodology.

Triangulation of data connected with the source of information consists of comparing research which is held in different groups, periods of time and different places. It is worth noting that within this type one can distinguish some subtypes of data triangulation. At that moment it is recommended to research the phenomena in various periods of time, considering different localization and distinct objects of study [33]. Authors also allow fusing or mixing of diverse types of data.

The next kind of triangulation is a triangulation of investigators, which consists of doing research by many scientists. In this method it is relevant that respective researchers would not progress their study through the division of work or tasks. The essence of triangulation in this school of thought is to simultaneously realize the research by many investigators. In other words, an occurrence is investigated by, for example, observation and interviews to show what every researcher during their inquiry thought as the most important and to minimalize the unconscious preferences of the investigators. In this way, data acquired by the researchers are comparable.

Meanwhile, the triangulation of theory applies to the situation, where an occurrence is theoretically inconsistent. It consists of using many theoretical concepts explaining the mentioned incident. The essence of such attitude to research are analyses of the theory of the occurrence and choosing the most appropriate or, if it is impossible, creating one's own. A major advantage of this method is a possibility of familiarizing with various theories concerning the research problem, even the most distant ones, during the time of the study.

The last type of triangulation is the triangulation of methods. It is based on the application of research methods originating from various paradigms, often quantitative and qualitative. Summarizing, the conception of triangulation means the topic of study is recognised – and in the constructivist attitude manufacture – in at least two different perspectives. Usually, this type of various expression is obtained by using different methodological perspectives.

2. 3. Triangulation – research method in jurisprudence

From the methodological point of view, research method is typical and recurring manners of acquiring, analysis and interpretation of empiric data, used to collect maximally justified answers to questions referring to raised research problem. Another method of study is a research approach which consists of strictly specific methods as well as usage of adequate research instruments. The essence of the research method should tend toward coordination of the manner of conduct with an assumed aim of research.

As it was stated in the beginning, that in social sciences there is no agreement towards uniform and commonly used division of research methods. As J. Apanowicz stated, one of these can be distinguished as the method of diagnostic survey. This method usually is used as a research technique interviews and surveys. However, M. Cieślarczyk from mentioned actions made a research method on its own. Due to the above statements triangulations without question fits on research methods and with great success may be practiced in jurisprudence.

While the definition of triangulations in its primal meaning is similar, in social sciences there is no agreement about what it exactly is. Analysis of the literature displays that discussed concept does not have one commonly recognised and applied definition. In social sciences and in consequence in jurisprudence data for the further analysis are received as a result of formal actions, but also informal and verbal and nonverbal. This connection of various types and kinds of reactions enables using four different research methods: observational, survey research (direct interviews and survey examination), derivate analysis of data (analysis of documents) and qualitative research. Every one of these methods among their benefits has their own limitations. For example, results given from observation can be verified through a survey. Because of that approach to research triangulation is defined as more than one manner of acquiring data within homogenous research plan aiming to testify the same hypothesis. Usage of at least two research methods to trial the same hypothesis is the essence of the triangulation method, which allows the investigator defeating their own prejudices and limitations resulting from adopting only one methodology. Thanks to a different method in one study investigators may partly overpower the lack of precise which emerges from using only one method and conducting the study only by one researcher.

In social sciences lexically triangulation was determined as usage of at least three or, even better, a bigger number of studies, theories, reasoning, and bases of data connected to one topic. Particularly connection of research in micro and macro scale and their application to mutual complementing and verification in order to receive well justified results of the study. This approach was developed by Norman K. Denzin. Triangulation is also understood as an association of various methodologies used to research the same phenomenon, but also as a scheme of action allowing to rise above personal preferences connected with determined methodologies. Triangulation (…) is the most solid strategy of creating theories. According to J. Czarzasty the term triangulation applies to usage of a packet of consistent empiric foundations to deduce. Undertaking an attempt to fuse the methods one must remember that using one method for acquiring the data and another to its analysis is not a triangulation.

It may appear that using triangulation as a research method in legal sciences guarantees higher quality of research and constricts any mistakes, thanks to procedure depending on acquiring, elaborating, analysing and interpreting of data through three or more research methods or techniques and comparing and connecting the results, a for it is the association of strictly formal methods that give synergy. Additionally, it is characterized by specific research procedure, because it is not a creation that is out of touch with the reality of science. Triangulation can be treated as an alternative to traditional criterium of research quality, particularly in studies with quality character, which are for example interviews with experts. With success triangulation can be perceived as a method and used in jurisprudence, because it is able to fulfill if not every, then at least most of its tasks:

- clarity, in other words, common understanding, recognition
- explicitness, which excludes arbitrariness of interpretation
- purposefulness which means subordination, coordination towards a specific aim;
- efficiency, assurance of gaining the chosen goal, fruitfulness, what means that it is able to provide not only the main results but also the minor ones, which are as important to many fields of science
- reliability which allows gaining intended results, targets of high probability
- economics, which allows to gain intended results with the lowest possible costs, consumption of resources and time.

An additional component is the fact that majority of investigators know this model of mixed research and its results are well documented and credible, therefore it is quite beneficial. If researchers decide to use the mixed method, they should choose on exactly this model of separate acquiring of qualitative and quantitative data to compare both sources. Simultaneous completing the data is possible in a short period of time [28].

However, it should be remembered that among its advantages this model has its own weaknesses. Unfortunately, it demands an enormous labour and experience input, as for only that way it is possible to research particular occurrence using two different methods. According to this often there is no way of acquiring the results of two analyses, which occur in two forms.

Furthermore, the divergence may deter the investigators, even if in the literature there are proposed proper procedures based on acquiring the additional data, explaining divergences and renewed examining the primal database, as well as drawing new conclusions from dissimilarities or formulation a new project which is compared to the difference problem [32]. In the literature, these comparisons are called confirmation, disconfirmation, cross-validation or corroboration [33].

All in all, it is the aim of triangulation to validate the outcomes of the research through results comparison from qualitative and quantitative data. This method of analysis may be used in jurisprudence mainly in projects with paralleling mixed methods in which qualitative and quantitative data are gained in the same period, mostly from the same sample. The whole process of triangulation should begin from the science research project in which the same question is investigated using two different methodologies – qualitative and quantitative. Therefore, there are no obstacles which may disturb conducting surveys on the chosen sample and making the interviews with experts at once. Afterward acquired qualitative and quantitative data should be analysed independently with the use of traditional qualitative and quantitative methods of data analysis to acquire two standalone set of results. Then the results from both sets should be compared to see whether they achieved the same conclusion.

3. CONCLUSIONS

Despite differences that occur within the group of types of qualitative and quantitative research that are forming sometimes distinct conditions of acquiring, examining and interpretation of information, qualitative and quantitative methods of research can be successfully united.

To summarize above discourse, the essence of triangulation is, therefore, respecting the rule of diversity of independent data sources, researchers, strategies, theories and even methodologies, and in that way searching for sensible answers. If one defines what the triangulation is he should notice that this term means the procedure in which only one occurrence is analysed regarding one research question [34]. Additionally, in textbooks it is often highlighted that triangulation is a methodological procedure which aims to verify acquired data.

Connecting many different approaches in one research “investigators can partly overcome the lack of accuracy resulting from using only one method and conducting the research by only one investigator” [34]. Moreover, testing the same hypothesis by different methods minimalize the errors obtained from the limitations and disadvantages of respective

research techniques and the resemblance of given results allows to legitimize the data. In such train of thought, the understanding of triangulation allows to treat it as some kind of research results verification procedure by searching the degree of similarity of data coming from different sources. All in all, in every its definition there is one thought: triangulation is a procedure that allows observing what is common in data that comes from different sources and because of this it allows to minimize or reduce the reasoning error.

Once more it should be emphasized that triangulation is used for application and connection of research methods during the investigation of the same object of research with an aim to double (or triple) checking, comparing and in effect unifying the results. What is interesting, even two methods may provide two colliding results. Using the third method, in an attempt to solve the research problem, has a chance to get the investigator closer to one result or another. Moreover, if data acquired from using the third method are different from the rest, one should verify the current process of research and, if there is a necessity, make amendments.

Without discussion, it should be the most popular method between the researcher, because two methods may be complementary, so they can be used in the same research project, but on different stages in terms of the process of triangulation.

Jurisprudence benefits from methodological achievements of social sciences. On one hand, the wide spectrum of methods and techniques allows for reliable research, on the other it creates difficulties in a choice of the most proper one. Because jurisprudence is almost empiric (inductive) science it is required that empiric data used to analysis and interpretation came from the widest possible spectrum of subject observation. Despite few disadvantages, the proper solution for the need of verified, reliable results in jurisprudence may be the method of triangulation.

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