

## TRIANGULATION IN INTERNET RESEARCHES

Ewelina Sudra

Department of Rural and Urban Sociology, University of Lodz, Poland

E-mail address: ewelina.m.sudra@gmail.com



EWELINA GWARA

Department of Rural and Urban Sociology, University of Lodz, Poland

E-mail address: ewelina.gwara@wp.pl

### ABSTRACT

The aim of this article is an exploration of the problem concerning gathering triangulation in internet research by using a computer. In this article the concept of triangulation implemented by Norman Denzin, defined as “*searching for information on the same subject in different sources*” (Hensel, Glinka, 2012, p. 94) was used. The attempt to obtain particular kinds of triangulations (examination techniques, data, researches, theories) concentrates on the subject connected with the relation between patients and their doctors. For researchers subjects based on possibilities and restrictions connected with gathering multiplicity of information inside different kinds of triangulation concerning one subject seems to be interesting.

**Keywords:** triangulation, internet researches, relation between a patient and his doctor.

### INTRODUCTION

The development of the internet has contributed to the creation of many new research possibilities. It is certain that it has played an enormous role in different kinds of social research. The internet is a very important medium, by which we can explore social processes, because in virtual reality they can be analyzed at many different levels, which is to be proved by the authors of this article. Moreover, another very important advantage of the internet is the possibility of reaching many groups of respondents that may be difficult to reach. In times of computerization of society more and more people are using the internet. All over the world there are over 2.3 billion people using the internet; in Poland there are more than 17 million internet users (57%) (Malec, 2012, p. 24) The above factors provide a huge opportunity for researchers who can examine the behaviour of large groups of people using different research techniques, using found and created data gathering a lot of rich research material. That is why researchers are interested in triangulation. It provides an opportunity for a more comprehensive, thorough explanations of problems and allows for the avoidance of mistakes connected with wrong hypoth-

eses. It ought to be mentioned that exploring one phenomenon in many different ways is more reliable from the reader's point of view. When recipients of the text see that the problems were explored in many different ways and the researcher confirmed all hypotheses they mark the text higher. Moreover, using triangulation in qualitative research helps in dealing with the problem of excessive researchers' subjectivism by, for instance, referring to another researchers' results (triangulation of researchers). Such multiple depictions of one problem is also achieved by use of different methodological perspectives (Flick, 2011, p.79).

To sum up, thanks to the use of the internet in social research the researcher can gather a lot of empirical material, not necessarily by using a lot of measures and time; the use of different kinds of triangulation allows for a multidimensional analysis of the problem and an increase in the reliability of conclusions.

The research problems are connected with the relation between a patient and his doctor; in a more detailed way:

- 1) Communication - verbal behaviour of the doctor in relation to his patients
- 2) Subjectivity - methods of treating patients by doctors
- 3) Awareness of patients' rights - knowing of patients' rights and the ability to use them.<sup>5</sup>

The aim of this article is the exploration of the problem concerning achieving triangulation in internet research by the use of a computer. As mentioned before, the concept of triangulation implemented by Norman Denzin was used. For researchers, the most interesting research material were the subjects based on prospects and opposites connected with employing numerous research techniques, data, and theory in the field of different kinds of triangulations concerning the same subject.

### **THEORETICAL ASPECTS OF THE DEFINITION OF “TRIANGULATION”**

At first “triangulation” meant a particular method of measuring fields by geodesists. It was based on defining the exact distance between the object and the geodesist. Firstly, a triangle is drawn between them. The base of this triangle is a straight line and then all angles between the triangle and the base are measured from both sides. In this way the real distance between the object and the geodesist is measured. A figurative perception of triangulation can be related to social sciences. Thanks to examining the object from many different perspectives we can arrive at a more detailed picture of the particular object (Gibbs, 2011, p.167). Nowadays by triangulation we mean “the use of at least three or even more researches, theories, reasoning approaches and collections of data concerning one subject. In particular, a combination of researches at the micro and macro scales and using them for combined complementation and verification to obtain well justified, credible results” (Marshall, 2008, p. 404).

In social sciences this method was pioneered by Norman K. Denzin, who distinguished the following types of triangulation:

- Methodological triangulation
- Triangulation of data

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5 More information can be found in the article written by Łaska-Formejster, Sudra, & Dzikowska (2014).

- Theoretical triangulation
- Triangulation of researchers.

Methodological triangulation is achieved by usage of many different methods and techniques of exploration to investigate a single problem. This method allows for more objectivity of research and a comprehensive view of the analyzed phenomenon. Researchers very often use quantitative and qualitative methods simultaneously. This is mainly to cover up the differences and contradictions between them. Methodological triangulation takes mostly the form of particular stages of research in which the researcher relies on qualitative research first, and subsequently on quantitative research.

Triangulation of data is often the result of using different research techniques. It relies on using various pieces of data derived from different sources to describe the same research problem. In this way, the researcher consciously minimizes the risk of the influence of a particular context on the used data. What is more, using data from different sources gives the possibility of more objectivity between analyzed phenomena and their determinants.

Another kind of triangulation is theoretical triangulation. To conduct theoretical triangulation to describe one phenomenon one has to take into consideration a few theoretical perspectives. A problem may appear when the researcher combines different theoretical assumptions coming from different paradigms.

Finally, the last kind of triangulation expressed by N. K. Denzin is the triangulation of researchers. It postulates that two or more researchers take part in one examination of the analyzed phenomenon. It allows restriction of the preconceptualization of the research process. Moreover, it makes it possible to investigate the relation between researchers. We should also take into consideration that there is no excellent, faultless researcher, and that is why the role of the test researchers is important. They can help and support.

Using triangulation in research, especially qualitative research, has both opponents and supporters. David Silverman addressed this matter. Among advantages of triangulation he mentions a bigger possibility of examining a problem from different perspectives, which allows for the avoidance of interpretative mistakes. Furthermore, the researcher has more power to explain conclusions thanks to using interesting paths of analysis. Another advantage of using triangulation is perceiving new assessments of social reality in which people do not always behave the same. The main disadvantage of triangulation quoted by David Silverman is taking into consideration one basic reality which is the subject of different descriptions. However, each project carries its own interpretation of the subject even though it uses a different exploring technique. Such possibility should also be taken into consideration (Gibbs, 2011, pp.167-168).

### **ACHIEVING TRIANGULATIONS IN RESEARCH**

As it has been mentioned above, the authors of this article focused on achieving all kinds of triangulations in relations between patients and their doctors. It should be stated that in all kinds of triangulation the authors mentioned three

examples concerning exploring techniques, data, theories, and research using virtual reality.

*Methodological triangulation*

To find an answer to the question: “How does the relation between doctor look from the patient’s point of view?” researchers used three different techniques putting together qualitative methods, internet methods, and the analysis of virtual present data, and quantitative surveys.

- First of all: an internet experiment

An internet experiment was conducted on twenty internet medical forums chosen at random for the experimental group (10) and for the control group (10). In the experimental group two kinds of stimuli were used: positive (5) and negative (5) posts. In the control group ten neutral stimuli were used. People from the experimental group were not informed about taking part in the research. On the other hand, members of supervision group were informed about taking part in the research. They were asked to give opinions about specific areas of research in the context of a particular medical forum. The aim of this experiment was to find an answer to the question: “What is the relation between patients and their doctors from the patients’ point of view<sup>6</sup>”. 52 comments were elicited.

The main advantage of the conducted internet experiment was an easy and fast access to respondents who are difficult to reach. An exclusive, hard to reach group is a group of patients suffering from different diseases. The internet character of the research made it possible to gather hard to reach information, which could not be accessed offline. Moreover, it collected information in a very short period of time from a homogenous group of people. Another advantage of this exploration technique is the ability of carrying out stationary research without the necessity of conducting time-consuming and sometimes very expensive field research. Sometimes internet research is stated as more reliable and objective, which may be connected with general advantages of internet research, which are divided into three groups: connected with sampling, gaining control over the explored environment and amenities in the process of gathering and analyzing data. The first group of features referring to sampling concerns an increasing number of internet users and simultaneously easier access to the particular social groups active online. The control over the explored environment is presented in easier, more open and authentic communication and behaviour of internet users. It is said that internet research is less stressful for respondents. Moreover, thanks to this it is easier for the explorer to control restrictions imposed on people taking part in research. Gathering and analyzing data by using of the Internet is faster and quicker, which allows the authors to save time and money (Epstein, & Klinkenberg, 2009, pp. 230-232). A really important feature of the research is the voluntary character of research, as well as protection of the anonymity and personal information of the participants. Because of that, internet explorations do not put pressure on participants in comparison with explorations led “in the real world” (Siuda, 2009, p. 159).

Inconveniences and disadvantages of this method result from the low control

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6 More information can be found in the article written by Łaska-Formejster, Sudra, & Dzikowska (2014).

over the environment of this experiment. It concerns technical problems like difficult registration on the forum, the lack of visibility of the researched post on forum, and the very short period of influencing the post while other posts are appearing every second. Another group of disadvantages is the lack of motivation. Aversion on reacting to researcher's questions can be caused by the tiredness of people taking part in it being asked a lot of questions by students. Unwillingness to be asked questions may be also concerned with the lack of understanding of the aim and aim of the research. Moreover, participants can be surprised by a different kind of exploration method than that they are used to.

In the experimental group the number of answers may be influenced by the lack of trust for new members of the forum, unwillingness to share experiences or making other members of the forum "responsible" for providing an answer. The experimental character of this research also results in many ethical doubts, for instance: inadequate information about the aim of the research, wrong choice of an experimental stimulus, using wrong identity, pretending that one is ill. The problem which concerns almost all internet research is that it is unrepresentative. Representativeness in the Internet experiments is lowered or "forged" by personal frauds like pretending to be somebody else or taking part in discussion many times by using different nicks (Batorski, & Olcoń-Kubicka, 2006, pp. 121-122).

- Secondly, the analysis of visual present data

The second method chosen and used by the authors is the qualitative analysis of visual data: photos. We should remember that a photograph is a clipping of social life: it is created by people, it presents an aspect of social life and it states the subject of social reception (Sztompka, 2005, pp.75-76). For research we chose photos called "At the center", which were posted on the internet and taken by Tomasz Tomaszewski, a famous photographer. He is a member of the Polish Association of Photographers. He published his photos in the most important Polish magazines as well as foreign magazines like: Stern, Paris Match, New York Times, Time, Fortune, Vogue, Die Zeit, Elle. He's been cooperating with National Geographic for twenty years. "At the center" was made in the biggest Polish hospital for children and the photos present life in the hospital (see: <http://www.tomasz-tomaszewski.com/gallery.html>). Six photos out of twenty-six in which apart from children and their mothers there was also a doctor were chosen for the analysis.

This technique was chosen because the Internet offers a never ending number of visual materials such as photos. The authors of this article searched for photos of difficult problems because showing something real would have been impossible. The subject matter required a typical behavior of doctors and their patients during an appointment. Another advantage of this technique is that it is inexpensive and the research material can be collected quickly (see: <http://www.tomasztomaszewski.com/gallery.html>).

One difficulty connected with using of this exploration technique is the danger of using photos forbidden to be published, unconsciously breaching copyrights. This problematic is so wide that it concerns all materials which are used by the users of the virtual reality. The fact that we are using omnipresent photos accessible on the internet makes the hermeneutic function the photo, i.e., the

context of the discovery, lower. Taking and interpreting photos makes our contact with the world stronger, shapes the sensibility to different visual aspects of social life and at the same time it releases the impulse of commitment and creativity (Sztompka, 2012, pp. 36-37). Here, since researchers are using photos accessible on the internet, not taken by themselves, achieving the context of discovery is impossible. Furthermore, we do not know what was the photographer's aim and intention when he was taking the photo. This is the subjective point of view. The author of the photos imposes his own perspective on the problem. The explorer can only analyze the material, which has been perpetuated in the photo (Gillian, 2010, pp. 84-87).

- Thirdly, survey analysis

An online survey was constructed in a special programme for making such surveys. It connected fifteen factual questions and fifteen metrical questions. The subject matter of the survey concerned the awareness of patient's rights. It was published on medical forums, where the internet experiment took place. There were 105 surveys collected.

Using this research technique has a lot of advantages and disadvantages. First of all, it makes it possible to reach a large group of respondents located in many different places quickly. It allows for infiltrating specific, closed groups, for instance patients. At the beginning, the authors noticed that there were a lot of people interested in taking part in this survey and within only a few days they collected 50% of assumed number of respondents. The other 50% of respondents returned survey results more slowly, only one or two returns a day. Because of respondent anonymity we can expect sincere and authentic answers. We can notice a minimalized surveying effect. The role of the researcher boils down to creating a survey, choosing a target group, and analyzing data (Oppenheim, 2004, p. 124). Thanks to creating a survey in a special programme we can prevent the lack of answers by setting a special function allowing forcing the respondent to answer the question. We should also take into consideration that other, more advanced functions are allowed only if we pay some extra money, because the programme itself is for free. Moreover, this programme counts answers and gives their percentage layout. But we should be careful and count the answers ourselves to be sure that all results are correct. This programme also allows one to look at current results, shows the percentage of completed surveys and the source of each survey. These functions also allow the researcher to control how many questions have been answered and if respondents have understood the questions. Another advantage of this programme is that it allows one to change the content and the structure during the time of the research. The most important thing is that online surveys give a high level of individualization of the tool, in other words, they can be adapted to people of different ages (Szpunar, 2010, pp.78-82).

Apart from invaluable advantages of the online survey, it certainly has some disadvantages. Because of the qualitative character of this method the main objection is that respondents are not observed while filling in the survey. It is the analysis of respondent's gestures and feelings which is unavailable for researchers in this method. In spite of the standardized character of the exploration tool we

never know if the questions are understood and interpreted by all respondents in the same way. It is due to the fact that they may induce different associations among respondents and all the same give immeasurable answers. The main disadvantage of all surveys is the low number of returns (Sztumski, 2010, pp. 191-192). Moreover, a researcher will never know who and how many times he/she fills in the survey. It is possible that some people take part in the survey a few times. Mostly volunteers take part in the survey. According to Jan Lutyński this is the biggest methodological problem (Lutyński, 2000, p. 145). That is because not all respondents have internet access and research attempts are restricted because of numerical exclusion. A respondent can be a person with access to a computer and the internet and have minimal knowledge about using a computer. Taking into consideration restricted possibilities of the respondent, his tiredness, free time and willingness to fill in the survey, the survey should not be long and should not have questions about knowledge. Following this way of thinking, the survey problem technique should not be complicated, but it should accompany other research techniques allowing one to dwell on some matters. On the other hand, this method has a constructing failure, because we cannot visually verify the collected sets as they do not exist in a physical sense (Szpunar, 2010, pp. 82-84).

#### *Data triangulation*

As it has been mentioned before, both researchers in order to tell about the relation between a doctor and a patient used three researching techniques thanks to which they gained three kinds of data (evoked, visual, statistic), user's statements, medical portals, photos showing young patients with their doctors and, database created from the results of an internet survey.

- Evoked data: statements of medical portals users

As the first type of data, evoked data will be presented, in this particular case statements of users registered on different medical forums, their comments on their attitude and relations with doctors. On the basis of evoked data, the qualitative and quantitative analyses were conducted.

The main advantage of the evoked data is that it gives access to opinions from different groups of respondents whose representatives would not agree to give their, sometimes controversial, opinions face-to-face with a researcher (Batorski, Marody, & Nowak, 2006, p. 102). Moreover, the experimental character of the research allowed us to get sincere answers by "talking with" persons who in their opinion have to deal with similar problems. The assumption about the sincerity of answers has been formed on the basis of experimental research results collected by psychologists. Conclusions of their research prove that research results are more often adequate in comparison with traditional ones (Siuda, 2009, p. 159). An essential advantage is the lack of necessity to enter data, because responders write it themselves, which helps to save a lot of time and more than once lower the costs of research (Gregor, & Stawiszyński, 2005, pp. 333-334; Siuda, 2009, p. 161). Depending on conceptual assumptions there is a possibility of elaborating data not only in a qualitative but also in a quantitative manner, which has taken place in research conducted by the authors of this article.

A serious disadvantage that results from collecting this type of data is sometimes the lack of the control over the group of respondents (Siuda, 2009, p. 165) and the inability to restrict the number of comments not connected with the subject of the survey which mainly disturbs the balance between data essential to the survey and the insubstantial data. There is also a great possibility of misunderstanding of the stimuli given by researchers. An experimental character of the research does not give any possibility of explaining to respondents some particular, unclear issues. At the same, a possibility of receiving data not adequate to the conception is definitely too great. More than once researchers can face a strong influence of some people on the individual, for instance in situations when we have to cope with the influence of the group stronger than the influence of the stimulus. That causes many disturbances. One of the most important issues is that we are cannot look at non-verbal behaviour of the participants after giving the stimulus. The only possible data to gather is just the post. Furthermore, it is hard to read emotions connected with each post. Since scientists gather only the post and at the same rely on punctuation marks, for instance exclamation marks. On the other hand, sometimes respondents' posts do not have any punctuation marks, which makes the emotion analysis much harder. What is more, the analysis of evoked data allows the risk of incomplete understanding of respondent's statement (Siuda, 2009, p. 165). There are also limited possibilities to explain what exactly the respondent had in mind. Evoked data gathered on the internet mainly comes from young people, which is another disadvantage of the method. The main problem is the unrepresentativeness of the attempt and restricted reasoning. As has been said, the main problem results from digital exclusion (Siuda, 2009, p. 162).

- Visual data: photos gathered on the internet

Another type of data is visual data, in this case, photos found on the internet characterized in the previous chapter about techniques of triangulation of research techniques.

In general, more often the parallel development of photography and sociology is taken into consideration, because their common aim was to meet the society fully. Sociologists claim that visual data reflects all aspects of social life. Thus, a photo becomes a way of meeting and registering social events. According to K. Olechnicki photography is a "golden key" (Olechnicki, 2003, p. 171). It opens the door to reflections and emotions, especially those unknown. Another point of view on visual sociology belongs to Maciej Frąckowiak. The author postulates taking into consideration the social function of a picture, and treating the picture as a social practice (Frąckowiak, 2011, pp. 141-154). Such data also gives wide possibilities to analyze photos from many perspectives or visual techniques. It needs to be noted that visual data does not have to be the only source of knowledge. It can also be a complement to other kinds of data and thanks to it diversify and enrich conducted research. This is conducive to giving precise answers to problematic questions (Kałuża, 2006, p. 66). A very valuable feature of filling other quantitative or qualitative data with visual data is making the text more attractive. The report from the research complemented by such type of data is



more encouraging and tempting for the reader. What is more, photos contain sociological intention. Photos in research process are treated like a subject of an analysis and carry essential sociological contents.

The main disadvantage of visual data is the ambiguity of accessible pictures which can cause mistakes in analysis and interpretation. Moreover, the researcher trying to confirm data coming out of using different techniques may be led to over-interpretation of content included in photos. On the other hand, there are some difficulties in finding visual data corresponding to answering problematic questions. In addition, there is a lack of objective inflexible criteria supporting the analysis of evoked data, so there is no possibility to avoid a subjective interpretation by the author of research. Each data analysis has always the element of subjectivity. Firstly, in the process of creating a photo, the photographer places in the frame some additional elements. Secondly, the explorer interprets photos according to his own cultural capital, axiom-normative, and chooses specific analyzing theories (Kałuża, 2006, p. 66).

- Statistic data: database gathered from the internet survey

The last type of data, analyzed in the problem of relation between a patient and a doctor is statistical data gathered with the use of an internet survey. Collected data was analyzed in SPSS Statistic programme and the edge layouts from all questions were counted.

It is certain that one of the main advantages of numerical data is the possibility to conduct many different statistical analyses, including the multidimensional ones (e.g. regressing, variations, and factoring), which allows one to reach many interesting conclusions, advanced deduction, precise answering to the questions and reliable verification of hypotheses (Nowak, 2007, p. 298). This data can be calculated without problems in many different statistical programmes like SPSS Statistic (see: Malarska, 2005) or Statistica (see: Rabiej, 2012), which eliminates the risk of making mistakes by the researcher. In addition, they enable graphic tabular presentation of gathered data, which enriches the text and makes it much more reliable and scientific in reader opinion. Statistical data also gives possibility to compare one researcher's results with the results by other researchers or research agencies. Thanks to them they are said to be competent. What is more, statistical data give more factual results; they are objective. Gathered results limit subjectivity. Numbers always have specific values and are understood by all people in the same way, so the possibility of misinterpretation is relatively low. Statistical data gathered thanks to the survey has one more important advantage: in most cases it is really true (Andrałojć, 2006, pp. 110-111). Anonymity assured to internet users induces them to give sincere, open answers. The authors of this article in their researches received very reliable descriptions of situations connected with difficulties in relations between doctors and patients and some examples of breaching patients' rights by healthcare employees. We can suppose that if we asked respondents face to face they would not have given answers so sincerely.

Unfortunately, this data also has a few disadvantages. The main problem which researchers have to face is a great lack of data (*unresponse error*) in databases (Andrałojć, 2006, p. 113), which may distort the results of the analysis.

It needs to be noted that respondents fill in the survey on their own without researcher's help, so they can understand some questions incorrectly and provide the scientists with wrong answers. Another disadvantage of statistical data is connected with answering open questions. It sometimes happens that respondents cannot clearly and precisely give their opinions or omit open questions on purpose (Andrałojć, 2006, p. 115). Researchers are unable to discover real thoughts of a particular respondent. What is more, respondents provide researchers with only numerical data. It is hard to conclude their relations after reading questions so the analysis can be poorer. It is known that such kinds of data require the researcher to use special programmes for statistical calculations. In some other cases there is a great danger of making a serious mistakes in calculations and drawing wrong conclusions.

#### *Theoretical triangulation*

Collected empirical material was also subjected to theoretical triangulation. Data was analyzed on the basis of three theories: the grounded theory method, visual grounded theory, and theoretical methods concerning relations between a patient and a doctor.

- The grounded theory method

The grounded theory method (GTM) is a part of qualitative researches. It is based on the assumption that we should not formulate theoretical assumptions before taking part in the research. A social reality is created by people, by respondents (Konecki, 2012, p. 21). At first we should collect all data and then on that basis (without referring to the theory which restricts researchers and limits their interpreting abilities) create codes and analyze them. Coding (based, open or focused) allows one to extract new inspirations (Konecki, 2009, p. XIII). In this theory the most important thing is the context of the analyzed situation and the influence of the researcher on it (the influence always takes place). One of the most important elements of grounded theory is writing research and theoretical notes by a researcher and a theoretical collecting of samples until the exhaustion of the category (Konecki, 2009, pp. XIV - XV).

The most important advantage of the GTM is the lack of theoretical restrictions (Konecki, 2000, s. 26). A researcher using this theory can collect data himself and draw conclusions in his own way (Konecki, 2012, p. 13). Rigid theoretical frames are not a problem for them. The only restrictions are those created by themselves (Konecki, 2009, p. XIII). What is more, thanks to a great discretion, the researchers on the basis of gathered data and drawn conclusions can create new conceptions and contribute to the development of each scientific discipline. We can even say that GTM generates great creativity among researchers. Moreover, thanks to it we can gather diverse data by means of observation (open/hidden or participated/ without interference) or different kinds of free interviews and even the analysis of gathered data (Charmaz, 2009, pp. 23-57). Thanks to this, with help of many research techniques it is possible to collect a great amount of material for analysis, because, as it was said by Glasser, "*all is data*" (Konecki, 2012, p. 14). In addition, all collected data can be analyzed not only

by using traditional methods, but also by using such computer programmes as EnVivo, Open Code, or Word Count. It is interesting that these programmes allow one to create trees and connection maps between created codes. Without a doubt, the most important feature of GTM is that because of its flexibility it allows one to maintain serendipity during researches (Konecki, 2000, p. 27), i.e. thanks to its procedures researchers have an ability to search for and discover phenomena which at the beginning they did not search and assume. Thanks to it the collected data is more valuable.

It is certain that this theory has some disadvantages. Critics accuse it of too high a level of subjectivity (Konecki, 2000, p. 80). Researchers not restricted by any theoretical attitude research, analyze, and draw conclusions without referring to current scientific research. Collected empirical material can be wrongly analyzed on the basis of the cultural context in which the researcher was brought up or axiom-normative set of values (Konecki, 2000, p. 96). As it has been mentioned before, researchers gather data until they reach theoretical saturation. In some cases it is hard to be recognized, because we never know when the research should be finished and when the researchers have gathered enough empirical material (Hensel, Glinka, 2012, p. 93). There is a possibility to omit important matters in the process of collecting materials, because the researcher does not know what exactly to look for. So, the earlier mentioned serendipity is, on the one hand, a great chance for researchers, but on the other hand it is a huge source of problems and dilemmas. Great subjectivity accompanying research leads also to the serious risk of the misinterpretation (Carvalho, Scott, Jeffery, 2003, p. 13). Moreover, there are some difficulties in formulating appropriate codes. Some of the gathered data are quite problematic and researchers are not sure which code they should use to describe an analyzed extract. A very serious obstacle for using GTM is the lack of achieving recognition of the research by other researchers, i.e. functionalists. Traditionalists are still unable to accept the grounded theory method as of fully valid research method. In connection with this there are still many conflicts between "old" researchers and supporters of the grounded theory method. We should state that in this current mainly quantitative methods appropriate for field research are used. The most problematic issue is using this paradigm for qualitative methods. In addition, the analysis of qualitative data is a very laborious and time consuming process (Carvalho, Scott, & Jeffery, 2003, pp. 13, 34). Moreover, thanks to using this theory we can examine formulated reality, by being as close to people and their actions as possible, in other words, this theory examines people in their natural habitat. All the same, treating virtual reality as a natural habitat can be a huge problem.

- Visual grounded theory

The second theory which was used to examine the relation between a patient and his doctor was the visual grounded theory. It is a part of the current of grounded theory (Konecki, 2012, p. 14). Its theoreticians claim that gathered visual materials can be empirical data of full value (Konecki, 2008a, p. 90). Visual data is analyzed as a basic researching material or as a complement of other kinds of information (Konecki, & Chomczyński, 2012, pp. 317-321). Visual materials,

along with photos are chosen by means of theoretical assortment of samples and we should choose them in a way “*to think of them by means of words*” (Konecki, & Chomczyński, 2012, p. 318). In this analysis the methodology turned out to be helpful for interpreting photos made by Tomasz Tomaszewski found on the internet in accordance with the conception that photos can be used as current materials and be the basis of answering research questions (Konecki, 2005, p. 46).

The main advantage of visual grounded theory is the possibility to enrich the research report with new data and conclusions drawn from the analysis of, for example, photos (Konecki, 2005, pp. 45-49). Moreover, with regard to drawing a wider analysis, visual grounded theory gives the possibility to answer problematic questions. Thanks to analyzing visual data, a researcher is able not only to interpret particular respondents’ words and opinions but also to classify gestures and emotions which accompany them (Konecki, 2005, p. 53). The ability of the analysis of nonverbal communication (Konecki, 2008, p. 72) is a very strong argument for more often using of visual grounded theory in social research, because it allows wider understanding of the problem. A very important matter is the natural insight into the area (Konecki, 2008, p. 72) which definitely makes understanding of the social reality easier. Without a doubt, an appropriate use of visual grounded theory’s rules develops the methodological researcher’s workshop. In addition, apart from researched gestures and emotions, photos show the background and interaction’s details and thanks to it the analysis is more accurate (Konecki, 2012, pp. 16-17). Visual grounded theory demonstrates that empirical data is constructed (Konecki, 2012, p. 21) and that is why the analysis of the photographs’ context is so important. Finally, this theory makes it possible to expand the context of exploration of data which come from nonverbal communication and visual symbols (Konecki, 2008a, pp. 95-111).

The disadvantages of visual grounded theory are strictly connected with censures concerning the methodology of the grounded theory. Visual grounded theory is characterized by considerable subjectivism, which means that everybody can interpret a photo in their own way. Coding of photos is not an easy task and it requires appropriate preparations (Konecki, 2008a, p. 90). Many inexperienced researchers can be unable to deal with that at the beginning of their scientific career (Konecki, 2008a, p. 96). There is also a great possibility of wrong understanding of the photograph’s context and at the same time interpreting it in a completely different way (Konecki, 2012, p. 24). A great drawback of this theory is the lack of certainty concerning the size of the sample and a way of choosing it. Each research problem is different and requires an individual scientific attitude. One phenomenon can be explored by analyzing only 50 photos, but another phenomenon cannot be explained even with the help of 1,000 photos. The researcher has to decide, very often facing many different problems. As in the case of the methodology of well-grounded theory, there is a lack of theoretical saturation. Sometimes it is hard for the researcher to make a decision to stop searching for additional photos for the analysis.

### THEORETICAL MODELS CONCERNING THE RELATION BETWEEN A PATIENT AND HIS DOCTOR

The last of the theories used in the research are those connected with the relation between a patient and his doctor concerning subjects such as communication, subjectivity, and the awareness of patients' rights. In the general theoretical attitude there are two main models of relations between a patient and a doctor: general attitude (an ill person is treated individually), and somatic (patient is only treated as an ill person) (Dolińska - Zygmunt, 2001, pp. 274-275). For this analysis, five models of relations between a patient and a doctor were used. Nevertheless, we should remember that there are a number of books concerning this subject. Three first models were created by Thomas S. Sasz and Marc H. Hollender (Dolińska - Zygmunt, 2001, p. 273). The relation between a patient and a doctor is analyzed on the basis of activity and passiveness of the mentioned subjects. Below there are models from the lowest involvement of the patient in the process of treatment to the biggest activity of a sick person:

- Activity - passiveness model
- Leadership - cooperation model
- Mutual cooperation model

In the first model the only active side is a doctor a patient becomes passive (Dolińska - Zygmunt, 2001, p. 273). In the second model the situation changes. Although this relation does not proceed symmetrically both sides take active part in the process of communication. A doctor dominates, shows that they are an expert in their job. However, a patient obediently follows doctor's advice, because they know that a doctor is a competent person who wants everything that is good for their patient (Dolińska - Zygmunt, 2001, p. 274). In the model of mutual cooperation the cooperation between a doctor and a patient is almost symmetrical. Both the treated and the treating person have some useful knowledge which can be used in the process of treatment. A doctor is a medical specialist and a patient knows the way they are experiencing the illness. Mutual cooperation leads to a very important benefit: there is no conflict between subjects in choosing the way of treatment (Dolińska - Zygmunt, 2001, p. 274). During the research of the relation between a doctor and a patient two models introduced by Antonina Ostrowska were used. Those models show a richer typology of the relation between a doctor and a patient, although they mostly focus on drawbacks of this cooperation. Those models are: (Ostrowska, 2009, p. 239):

- Passiveness - searching for activity
- Passiveness - passiveness.

The first method is based on the assumption that the doctor is a passive person, unwillingly taking part in a process of treatment while the patient is trying to force the doctor to act by persuading him to give the referral for specialist medical tests. The second model assumes the lack of commitment from doctor's and patient's side. This results in an inefficient influence on the process of a sick person's therapy (Ostrowska, 2009, p. 239).

Using above theories makes in-depth understanding and explanation of gathering data concerning the process of communication between a doctor and his patient possible. It also gives the possibility to gather many aspects of this relation and indicate pros and cons of relation models. Moreover, on the basis of the gathered material and its analysis there is a possibility to make recommendations for the health department, so conducted research has a social mission.

The main disadvantage of above theories is the multidimensionality of the interaction process of relation between a patient and a doctor. It is hard to suit a specific relation model to the authentic situation in a surgery. Another downside is that before the analysis the researcher has to gather enough data in order to estimate correctly a dominant model of communication between a patient and his doctor, which is sometimes hard to fulfill. It is also important to estimate correctly and objectively the model of relation between a patient and his doctor and it can be done by the examination of both sides' opinion by time-consuming and labour-intensive research. In addition, we do not know if both sides will agree to take part in the research (when the patient is not so willing to answer the questions, and the doctor will refuse because of lack of time data will be incomplete and patient's answers will be hard to be analyzed objectively on the basis of the above models)

#### *Triangulation of researchers*

The usage of triangulation of researchers has widely broadened a substantial view of an analyzed phenomenon. The following research report available in the internet has been analyzed:

- Patients' Rights 2008. The report from the Capibus research described by Millward Brown SMG/KRC company;
- Patients on the internet. The report prepared by Procontent Communication on the basis of the analysis of results of Megapanel PBI/Gemius research;
- Internet services about health 2011. The report prepared by Polish Internet Research.

The first report was made on the basis of the opinion poll Capibus based on the CAPI method. It was described and devised by Millward Brown SMG/KRC (<http://tk.smgkrc.com.pl/page.php?id=3>) giving itself out to a leader of market and opinion researcher in Poland and Central and Southern Europe. The goal of the company is to gather experience and knowledge about the consumer. It also conducts research concerning predicting poll results. The aim of the analyzed research was to get to know the awareness of patients' rights and their knowledge among Polish people. The report provides information about diseases and a way of their treatment searched for by internet users. The awareness of patients' rights, their knowledge, and the knowledge of their sources have been analyzed. An idea of social informative campaign concerning patients' rights has also been estimated. In the analyzed report there is no substantial comment on the results and the broadening problem of people who had were aware of the existence of patients' rights but were unable to name any of them.

Another research report concerning the activity of patients on the internet was prepared by Procontent Communication (<http://procontent.pl/>). This company has great experience of communication in pharmaceutical industry as well as medical equipment and articles. This research provides us with rich essential data concerning the most often visited by patients and doctor internet health services. There has been made a rank of the most popular websites. There has been an in-depth characteristic of medical websites according to the internet users profiles according to their gender, age, the level of IT competences, occupational status, and the area they live in. What is more important, the newest unique methodology of researching user-centric by the research site-centric was used. The basic source of information about visited websites, used applications, and the time of using the internet was of several months an internet panel, which was a small microcosm of Polish society. The thread of popularity of medical services among doctors has not been widened.

The last research report about the internet health service was prepared by Polish Internet Research (<http://www.pbi.org.pl/pbi/informacje?locale=pl>). This company conducts internet research and promotes credible and reliable research as an indispensable tool for subjects using on-line advertising. The methodology was based on Megapanel Gemius. The main advantage of this report is a very detailed description of twenty internet health services including the number of users, visits, time, average time per one user, reach of the internet. A description on the basis of users' gender, education, age and the place of residence is also very interesting. Moreover, this report contains a wide description of the kind of searched for information: kinds of subjects concerning health, places where people searched for information about health, nutrition, diseases, frequency of using the internet, buying medicines on the internet, using the internet for medical aims, ways of protecting health. The only missing thing is the lack of experts' comments on described presented results.

## CONCLUSION

The internet generates numerous possibilities for research in social sciences. The most important subject of this article is the fact of achieving triangulation by means of the internet. In comparison with research conducted in real world, the internet made it possible to gather research material from respondents belonging to a specific, exclusive group of people suffering from different diseases. It contributed to not only widening the perspective of research problems, but also to widening the consciousness about restrictions and possibilities of used research techniques.

## REFERENCES

- Andrałojć, M. (2006). *Zalety i ograniczenia ankiety internetowej jako metody zbierania materiału badawczego w dziedzinie zsz* [Advantages and limitations of an online survey as a method of gathering research material in the field of HRM]. *Zarządzanie Zasobami Ludzkimi*, (5), 109-123.
- Batorski, D., & Olcoń-Kubicka, M. (2006). *Prowadzenie badań przez Internet – podstawowe zagadnienia metodologiczne* [Conducting research on the Internet – basic methodological problems]. *Studia Socjologiczne*, 3 (182), 99-132.

- Carvalho, L., Scott, L., & Jeffery, R. (2003). *Exploring the use of techniques from grounded theory in process engineering*. Sydney: Centre for Advanced Software Engineering Research (CAESER), University of New South Wales.
- Charmaz, K. (2009). *Teoria ugruntowana. Praktyczny przewodnik po analizie jakościowej* [Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis]. Warszawa: Wydawnictwo Naukowe PWN.
- Dolińska-Zygmunt, G. (2001). *Podstawy psychologii zdrowia* [Fundamentals of health psychology]. Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego.
- Epstein, J., & Klinkenberg, W. D. (2009). *Od Elizy do Internetu: krótka historia diagnozowania za pomocą komputerów* [From Eliza to internet: A brief history of computerized assessment]. In: W. J. Paluchowski (Ed.), *Internet a psychologia. Możliwości i zagrożenia* [Internet and psychology. Opportunities and dangers]. (pp. 215-239). Warszawa: Wydawnictwo Naukowe PWN.
- Flick, U. (2011). *Jakość w badaniach jakościowych* [Managing Quality in Qualitative Research]. Warszawa: Wydawnictwo Naukowe PWN.
- Frąckowiak, M. (2011). *Co nowego widać (i dlaczego warto się temu przyglądać)? Uwagi o socjologii wizualnej* [What new can be seen (and why you should to look at this)? Notes on visual sociology]. *Studia Socjologiczne*, (3), 141-154.
- Gibbs, G. (2011). *Analizowanie danych jakościowych* [Analyzing Qualitative Data]. Warszawa: Wydawnictwo Naukowe PWN.
- Gillian, R. (2010). *Interpretacja materiałów wizualnych* [Visual Methodologies. An Introduction to the Interpretation of Visual Materials]. Warszawa: Wydawnictwo Naukowe PWN.
- Gregor, B., & Stawiszyński, M. (2005). *Wykorzystanie Internetu w badaniach panelowych rynku* [Internet usage in panel market research]. In: M. Sokołowski (Ed.), *Oblicza Internetu. Internet a globalne społeczeństwo informacyjne* [Faces of the Internet. Internet and the global information society]. (pp. 333-346). Elbląg: Wydawnictwo PWSZ.
- Hensel, P., & Glinka, B. (2012). *Teoria ugruntowana* [The grounded theory]. In: D. Jemielniak (Ed.), *Badania jakościowe. Podejścia i teorie* [The qualitative research. The approaches and theories]. (pp.89-115). Warszawa: Wydawnictwo Naukowe PWN.
- Historia firmy*. (2015). Retrieved from: <http://tk.smgkrc.com.pl/page.php?id=3>.
- Kałuża, J. (2006). *Spółeczny obraz świata w fotografii – o zastosowaniu analiz fotografii w badaniach socjologicznych* [Social picture of the world in photography - on applying analysis of photography in sociological research]. In: J. Kaczmarek, M. Krajewski (Ed.), *Co widać?* [What can be seen?]. (pp. 65-77). Poznań: Wydawnictwo Naukowe UAM.
- Konecki, K. T., & Chomczyński, P. (Ed.) (2012). *Słownik socjologii jakościowej* [The dictionary of qualitative sociology], Warszawa: Diffin.
- Konecki, K. T. (2000). *Studia z metodologii badań jakościowych, Teoria ugruntowana* [Studies on the methodology of qualitative research, Grounded theory]. Warszawa: PWN.
- Konecki, K. T. (2005). *Wizualne wyobrażenia. Główne strategie badawcze w socjologii wizualnej a metodologia teorii ugruntowanej* [Visual imagination. The main research strategies in visual sociology and the methodology of grounded theory]. *Przegląd Socjologii Jakościowej*, 1(1), 42-63.
- Konecki, K. T. (2008). *Dotyk i wymiana gestów jako element wytwarzania więzi emocjonalnej. Zastosowania socjologii wizualnej i metodologii teorii ugruntowanej w badaniu interakcji zwierząt i ludzi* [Touch and exchange of gestures as part of the creation of the emotional bond. Applications of visual sociology and methodology of grounded theory in the study of interactions between animals and humans]. *Przegląd Socjologii Jakościowej*, 4(1), 71-115.
- Konecki, K. T. (2008a). *Wizualna teoria ugruntowana. Rodziny kodowania wykorzystywane w analizie wizualnej* [Visual grounded theory. The family coding used in the visual analysis]. *Przegląd Socjologii Jakościowej*, 4(3), 89-115.
- Konecki, K. T. (2009). *Przedmowa do wydania polskiego* [Foreword to the Polish edition] In: Charmaz, K., *Teoria ugruntowana. Praktyczny przewodnik po analizie jakościowej* [Constructing Grounded Theory: A Practical Guide to Qualitative Analysis]. (pp. IX-XXV). Warszawa: Wydawnictwo Naukowe PWN.
- Konecki, K. T. (2012). *Wizualna teoria ugruntowana. Podstawowe zasady i procedury* [Visual grounded theory. Basic principles and procedures]. *Przegląd Socjologii Jakościowej*, 8(1), 12-45.
- Łaska-Formejster A., Sudra E., & Dzikowska E. (2014). Patients on Web. Analysis of the activity of medical internet portal users. Methodological reflections after an online experiment. *E-methodology*, 1, 73-90.



- Lutyński, J. (2000). *Metody badań społecznych* [Methods of social research]. Łódź: Łódzkie Towarzystwo Naukowe.
- Malarska, A. (2005). *Statystyczna analiza danych wspomaganą programem SPSS* [Statistical analysis of the data supported SPSS]. Kraków: SPSS Polska.
- Malec, J. (2012). *Polski pacjent w internecie* [Polish patient on the web]. OSOZ.10 (10.2012), 24-25.
- Oppenheim, A.N. (2004). *Kwestionariusze, wywiady, pomiary postaw* [Questionnaire Design, Interviewing and Attitude Measurement]. Poznań: Zysk i S-ka.
- Marshall, G. (Ed.) (2004). *Słownik socjologii i nauk społecznych* [The Concise Oxford Dictionary of Sociology]. Warszawa: Wydawnictwo Naukowe PWN.
- Nowak, S. (2007). *Metodologia badań społecznych* [Methodology of social research]. Warszawa: Wydawnictwo Naukowe PWN.
- Olechnicki, K. (2003). *Antropologia obrazu. Fotografia jako metoda, przedmiot i medium nauk społecznych* [Anthropology of image. Photography as a method, subject and medium of social sciences]. Warszawa: Oficyna Wydawnicza.
- Ostrowska, A. (Ed.) (2009).. *Socjologia medycyny. Podejmowane problemy, kategorie analizy* [Sociology of Medicine. Addressed problems, categories of analysis]. Warszawa: Wydawnictwo Instytutu Filozofii i Socjologii PAN.
- Rabiej, M. (2012). *Statystyka z programem Statistica* [Statistics with the program Statistica]. Gliwice: Helion.
- Siuda, P. (2009). *Eksperyment w Internecie – nowa metoda badań w naukach społecznych* [Experiment on the Internet – new social sciences research method analysis]. *Studia Medioznawcze*,3 (38).152-168.
- Szpunar, M. (2010). *Internet w procesie realizacji badań* [Internet in the process of research]. Toruń: Wydawnictwo Adam Marszałek.
- Sztompka, P. (2005). *Socjologia wizualna. Fotografia jako metoda badawcza* [The visual sociology. Photography as a research method]. Warszawa: Wydawnictwo Naukowe PWN.
- Sztompka, P. (2012). *Wyobraźnia wizualna i socjologia* [The visual imagination and sociology]. In: P. Sztompka, & M. Bogunia-Borowska (Ed.), *Fotospóeczeństwo* [Photo-society]. (pp. 11-41). Kraków: Wydawnictwo Znak.
- Sztumski, J. (2010). *Wstęp do metod i technik badań społecznych* [Introduction to methods and techniques of social research]. Katowice: "Śląsk" Sp. z o.o. Wydawnictwo Naukowe.
- Website Polskie Badania Internetu [Polish Internet Research]. Retrieved from <http://www.pbi.org.pl/pbi/informacje?locale=pl>.
- Website Procontent Communication. Retrieved from <http://procontent.pl/>.
- Website Tomaszewski Photography. Retrieved from <http://www.tomasztomaszewski.com/gallery.html>.