THE INTERNET AS A TOOL FOR CONDUCTING SOCIAL RESEARCH

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Abstract
The increasing availability of information and communication technologies affects the methodology of social research. Researchers are using the Internet in their research more frequently and incorporating a variety of techniques, including web surveys, personal interviews and focus group interviews, observations, and content analyses. The new medium carries not only capabilities but also limitations.

Key words
Internet research, mediated communication, CAWI, social research methodology

Introduction
The increase in the number of people using the Internet and its impact on social life raises interest among social researchers. Much research is focused on the Internet as a new communication tool, the social space of the Internet or relationships created on the web and the impact on people's lives are subjected to the analysis. In that way, the Internet becomes a research subject.

The Internet also opens new opportunities for social research, changing or modifying traditional methodologies. Existing research techniques such as focus group interviews are transferred to the Internet, but new techniques such as the CAWI (Computer-Assisted Web Interview) are also being introduced. Using the Internet as a research tool, one can conduct an Internet questionnaire (CAWI - Computer-Assisted Web Interview) by posting on web-sites. A survey can also be sent to respondents by e-mail, both in the body of the letter and as an attachment. They can also be posted on web pages or through pop-up windows. The Internet can also be used in qualitative research, such as observation (e.g. online communities centered around thematic or discussion forums), focus group interviews, or individual in-depth interviews. The Internet remains a valuable source of information, texts, data, content used for content analysis.

Division of Internet research
Apart from dividing into quantitative and qualitative research, Internet research can also be divided using the criterion of awareness of participation in respondents' survey and time criterion [1].

Not all research conducted on the Internet requires participants to be aware of their participation. Data can be gathered in surveys or interviews without the conscious participation of the respondent. By using observation techniques, the investigators need not be aware of their participation in the study.

It is also worth noting that online research can be synchronous and asynchronous. Some studies are conducted in real time, as in the case of an interview, requiring the respondent to attend and participate in the study at a specific point in time. Others provide opportunities to participate at any time, such as an online survey, thus giving the respondent greater flexibility and freedom.

Communication mediated by the computer versus face-to-face communication
An increasing number of people with access to the Internet are fostering the development of research using this medium. According to data presented in "Diagnoza społeczna 2011. Warunki i jakość życia Polaków" [2], in 2011, 61.1% of households had access to the Internet. However, not all people with Internet access at home use it. This is especially true for older, less educated people. In addition, the ability to use the computer and the Internet is different among different social groups.

Communication on the Internet is fundamentally different from face-to-face communication [3]. This is due to the lack of direct contact with the interaction partners and anonymity. Mediated communication is less personal

because of the limited ability to communicate nonverbal messages and creates a sense of anonymity. In addition, it is based largely on written text. It is also characterized by a slower pace of information exchange due to the speed of writing and reading.

Taking communication into consideration, so-called "unleashing behavior" occurs on the Internet when people behave in ways that they would not behave in everyday life, such as using verbal aggression, engaging in a war of insults, or self-revealing. In computer research, people are more likely to disclose intimate and sensitive subjects because they have a sense of anonymity and they are focused on their own attitudes and emotions. In addition, the act of writing itself is conducive to confessing.

The anonymity of the Internet gives the researcher relatively low control over the data collection process and may lead to abuse, presenting a dilemma regarding the reliability of the results obtained. Furthermore, the researcher is deprived of the ability to observe non-verbal signals that are particularly relevant for qualitative research.

Difficulties in Internet research
In addition to the limitations resulting from the nature of mediated communication, Internet research also involves difficulties in selecting the sample and in its implementation and control over external factors.

Sample selection
One of the most serious objections to Internet research is the lack of a representative sample. Surveys representative of the Polish population or surveys representative of the entire community are not possible. Not all Poles have access to the Internet, and those who use it are distinguished in the population as a whole because of their demographic and social characteristics. The Internet is more often used by younger, better educated people living in larger towns. In addition, it is not possible to conduct surveys representative of all Internet users because there is no census and no randomization of the population.

Representative surveys are possible for a strictly defined population when people in the population are using the Internet and a census is available. Hence, when the researcher decides to conduct a representative survey using the Internet, he or she should address it to a strictly defined group of people, such as a survey of registered users of website. Random sampling is also possible when the surveyed population is determined outside the Internet, the researcher may contact them by obtaining a mailing list and conduct a study online.

However, not all research conducted must be based on random sampling. In qualitative research, meeting the strict criteria of targeted selection of respondents is more important than the representativeness. The selection of volunteers is characteristic of online research [1]. Volunteers may be informed of the survey through the various websites on which the invitation is posted. Another way to recruit volunteers is to send invitations to forums, discussion groups, or chats. This opportunity gives the researcher greater control over the selected population. When conducting research on volunteers, it is important to remember that they are unrepresentative because they are not based on random sampling. Another limitation is the specificity of the subjects involved in the study. These people have different personalities and predispositions and are different from those who do not want to participate in the study.

Degree of sample completion
Online research also has a low level of sample completion. The lack of direct contact with the researcher/ interviewer and the sense of anonymity in the network are conducive to refusing to participate in the study, as it does not involve any consequences or costs. Other reasons for not participating in the study are lack of time, lack of interest in the topic of the study, being tired of the excess of studies or low motivation.

It is important to have an attractive study plan to increase the level of the sample completion. The invitation to participate in the study is particularly important. Its proper formulation, interesting graphic form, and aesthetic appearance can positively influence the motivation of the respondents. The information about the study should contain basic information, including the study topic and name and contact details of the researcher. The message should also state the approximate duration of the study and the end date in the case of asynchronous studies. Moreover, the invitation should emphasize the respondent's significance in the study. The personalization of invitations remains difficult to resolve. Batorski, referring to Porter Whitcomb's research [1], points out that the individualization of the sample has no effect on the willingness to take part in the study. However, it would be

worth considering, as personal invitations on the one hand may emphasize the uniqueness and validity of the respondent, but on the other they may be associated with the loss of anonymity.

The willingness to take part in the study, apart from the invitation itself, may be affected by the time of delivering it. It is best to send the invitation when the respondent has free time and will be able to start the study right away. However, determining the most appropriate moment is very difficult and varies for different populations. It is also important to send reminders to those who have not yet taken part in the study or haven't completed it. Zając, recalling Crawfoed's study [3], claims that reminders sent every two days are more effective than those sent every five days.

The obvious form of influencing the motivation of the respondents is gratification, whether it is financial, material or symbolic (e.g. thanks, research results). Gratification can be awarded to anyone who has taken part in a study or to a specific group. Undoubtedly, material gratification is important in the research that requires respondents to devote considerable time. Symbolic gratifications should be addressed to all participants in the study and result from research standards. Gratification information included in the study invitation may have a positive impact on the sample. However, they also involve doubts regarding, among others, motivation of the respondents, such as whether the respondent wanted to give honest and sincere answers or whether the main motive for the actions was to get the gratification. Furthermore, material gratification can destroy the internal motivation of respondents to participate in research.

Resignation during the study

Internet research, compared to traditional research, is much easier to interrupt because the anonymous Internet environment is conducive to resignation. Resignation from participation in the study is not a direct refusal to the investigator. Hence, an important element is not only to encourage participation in the study, but also to maintain the motivation of respondents during its duration. To minimize the percentage of respondents who resign during the study, it should be designed so that it is not time-consuming. The level of difficulty and the order of questions are also important. In the case of the CAWI-type research, a progress bar can also have a positive effect. Keep in mind that the study should focus on one topic, be relatively short, and contain few complicated questions. An attractive form of research tool is also important.

Control of external factors

Lack of control over external factors, such as the lack of standardization of the test situation, is another element that makes it difficult to conduct research using the Internet. During the study, the researcher cannot control the circumstances in which respondents participate in the survey, including where it is located, the presence of third parties, or potential disruptive or destructive factors.

In addition, the researcher does not have control over the technical aspects like the type of hardware, software, or speed of the Internet. These factors may be important during the study, may interfere with the results, or significantly affect them. In this situation, the research tool should be tested on different web browsers. Attention should also be paid to the different levels of computer skills and Internet skills of the respondents. In the above cases, such design of the research tool is postulated, which will not require high hardware requirements and the competence of the respondents.

When conducting research over the Internet, one should also be aware of the limited control over the identity of the respondents. In many situations, such as during CAWI research, the researcher is unable to verify the true identity of the respondent, including basic demographic characteristics like age or sex.

Advantages of Internet research

Internet research, despite the above described difficulties, also has many advantages. First, it is a relatively inexpensive and fast way to collect data for analysis, although it may sometimes require the purchase of costly testing software. Transcribing interviews and coding surveys can be done automatically by the computer, minimizing errors and removing the influence of the pollster. The results of these studies are available quickly and are provided in a digital format, ready for analysis. The Internet also gives the opportunity to reach a wide population or otherwise hard-to-reach, geographically dispersed people. Asynchronous Internet research provides opportunities for respondents to decide at what point to take part in the study. Finally, the Internet gives the researcher the opportunity to use audiovisual material, presentations of images, and sounds.

Internet focus group interviews

The Focus Group Interview (FGI) is a technique used in qualitative research based on a joint discussion of a group of interviewees on a given topic. During group interviews, exploratory questions are asked to explain and understand phenomena, motivations, attitudes, and behaviors without the intention of expressing the examined reality in a numerical and purely descriptive manner. Participants in the discussion stimulate, provoke, and inspire one another to express opinions and construct ideas. The dynamics of the group may lead to the disclosure of aspects of the research question that the researcher did not anticipate and which would not appear in unit interviews. Discussion is led by a moderator who uses a previously developed scenario. The research group is about 7-12 people and is chosen purposefully.

With the development of the Internet, it was possible to run FGI at a distance based largely on the same principles as traditional ones. They are carried out in similarly numerous groups, although some researchers postulate that these groups are less numerous, they are stimulated by a moderator, are geared toward exploring the problem, and based on targeted selection. FGIs are considered particularly useful in investigating difficult, intimate, sensitive issues, such as sexuality, religiosity, or health that would be more difficult to explore in face-to-face interaction. Since they can cover a wide geographical area, they are also used for cross-cultural research [4] and can be used in marketing and image research.

As with other Internet research techniques, FGI can be synchronized in real time or asynchronously. This format requires participants to have specific computer skills, particularly fast reading and typing. This is even more important during a real time FGI. All participants see each other's comments and those of the moderator after logging in to the designated platform for the study. This way of communication eliminates the chances of body language observation and can result in ineffective, incomplete answers. The current evolution of audio-video technology can switch from web-based FGIs that rely on written communication to a web interface that adds an audiovisual component. However, such a revolution entails further difficulties resulting, among others, from the loss of anonymity.

Asynchronous focus group research provides greater opportunities than synchronous research for brainstorming and synergies, as participants have more time to get to know each other and build up an atmosphere that fosters in-depth discussion [4]. Focused group interviews conducted via the Internet also create the opportunity to present graphic files and videos referring to specific websites or collage works. However, like other Internet research techniques, they are not free from the disadvantages typical of research based on mediated communication.

CAWI - Computer-assisted web interview

The development of new technologies has revolutionized survey research by creating computer-assisted telephone interviews (CATI) and computer-assisted personal interviews (CAPI). The presence of an interviewer is a fundamental characteristic of traditional online paper-and-pencil interview (PAPI) or CATI surveys, which distinguishes them from Internet research. In both direct interviews with respondents and telephone surveys, interviewers play a very important role. On the other hand, in the Internet surveys as well as in the postal survey, the interviewer does not appear. It can have both positive and negative consequences. On the one hand, the influence of the interviewer and the potential mistakes like improperly asking questions are eliminated. On the other hand, the respondent is more likely to reject the invitation to participate in the study or to discontinue it because it does not imply the need to communicate such a decision to another person.

Purchase of expensive CAWI software is not necessary. At present, there are Internet portals like www.an-kietka.pl that enable online surveys even free of charge. Of course, free of charge includes technical and functional limitations. But for a relatively small fee of up to PLN 300 per month, the portal offers a lot more opportunities for an online survey.

CAWI Internet research also helps reduce the cost of coding surveys. The results are automatically saved in the database, and some programs allow them to be exported to programs for statistical analysis like SPSS. In addition, you can get other details about the process of filling in the questionnaires, including the time to answer the question and the moment of interrupting the interview. Jadwiga Przewłocka [5], quoting, among others, data from the Polish Society of Marketers and Opinion Research, concludes that Internet surveys will develop dynamically in the coming years.

Conclusion

The development of the Internet has significantly influenced the techniques used in conducting research. However, limitations apply to the use of new opportunities. Internet research, as of today, cannot be used for representative research, such as on a nationwide population or Internet users. There are also other limitations as described in this article.

Easy access to software has extended the circle of people that can carry out social research, which presents another dilemma; the competence of designers and researchers, and therefore their quality, comes into question. The development of technology to facilitate research has increased the frequency at which Internet users are invited to take part in surveys. Most often the queries are for market research or for consumer preferences studies designed by companies, and are characterized by varying research values.

It is necessary to conduct further research to eliminate or reduce the limitations that are currently associated with online research. It is also important to disseminate good practices in research methodology using the Internet.

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