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## Scientific and research institutions' utilization of Internet tools for marketing research

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## SCIENTIFIC AND RESEARCH INSTITUTIONS' UTILIZATION OF INTERNET TOOLS FOR MARKETING RESEARCH

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### Introduction

The predecessor of the online survey, which is the subject of this work, is the e-mail questionnaire. E-mail questionnaires are included in the content or the attachment to an e-mail. Its main disadvantage is the fact that the content of the message can be displayed in varied ways depending, among others, on the kind of e-mail program used by the respondent. Moreover, the respondent has to save the message on his own hard drive and later send it back to the address provided in the invitation to the survey. In practice what is required from the respondent exceeds his willingness to cooperate. Another disadvantage of questionnaires delivered in e-mails is the fact that to a large extent they resemble paper questionnaires – usually word-processing or spreadsheet programs, in which they are prepared, don't offer the opportunity of creating branching, blocking backtracking, rotation of answers in a cafeteria and many other options which may determine the success of a survey.

As opposed to e-mail questionnaires, Internet-based questionnaires are located on external servers and the respondent gains access to it through a general or individual Internet address (link). The respondent can either receive the link to the questionnaire in an e-mail or access it by clicking a banner located on other websites or directly by entering the right address in his browser.

The following article looks into key aspects of the process of marketing research carried out by means of Internet-based questionnaire,s taking into consideration, wherever it is necessary, the needs and specificity of research units.

The needs and specificity of research units affects, among others, the kind of target groups which lie within the scope of their interests, the subject and geographical scope of research and the level of advancement of research tools. Obviously, it is necessary to apply different research methods for measuring the popularity of political parties than for investigating trends in technology.

The usefulness of an Internet-based questionnaire can be assessed based on the estimated level of error margin in coverage, lack of response and measurement. The following table explains the above-mentioned kinds of errors and provides examples for each of them.

**Table 1. Kinds of errors in marketing research together with practical examples**

<b>Kind of error</b>	<b>Definition</b>	<b>Examples</b>
<b>Error of coverage</b>	An error caused by the difference between the profile of the target population and the profile of the sampling frame. The causes of differences may come from an incorrect choice of the sampling frame or deficiency of address data in the sampling frame.	An Internet-based questionnaire targeted at the population of unemployed people from small towns and villages. In this case there is a high chance that there will be an error of coverage, as the unemployed who regularly use the Internet may differ substantially from those who don't use the Internet. Access to the Internet may be correlated with attitudes and behaviours of the surveyed population.
<b>Error of lack of response</b>	An error caused by the fact that a chosen respondent refuses to answer a question or quits before filling out the whole questionnaire.	Applying non-efficient e-mailing based on alien databases without using incentives to encourage participation in a survey. As a result, the achieved efficiency (response rate) at the level of eg. 0.5% - doesn't guarantee the opportunity to make conclusions about the whole surveyed population.
<b>Error of measurement</b>	An error which appears at the stage of collecting data - received responses do not reflect reality. The error of measurement may be the result of the respondent's approach, the applied tools, influence of the provider of the questionnaire and many other factors.	The error of measurement may happen in a situation where we don't block backtracking to previous questions in the questionnaire, which first asks a question about spontaneous knowledge of brands on the surveyed market and later a question about the aided knowledge (choosing out of a list of brands known by the respondent). Some of the respondents may change their answers to the first question after learning information from the cafeteria in the second question.

## Key aspects of the process of planning marketing research

### What kind of research do we want to conduct?

The most popular classification of kinds of research is based on the kinds of collected data – quantitative or qualitative. Quantitative research is focused on measuring the intensity of a particular phenomenon. The collected quantitative data enables us to make statistical conclusions and sometimes also to identify the reasons and effects of a given phenomenon. When we manage to find a correlation between intelligence and hair colour, it is not enough for us to conclude that hair colour affects intelligence or that intelligence affects hair colour. Even if the identified correlation wasn't a coincidence, it may turn out that people with grey hair are more intelligent not because their hair is grey (or the other way round) but because they have greater experience associated with their age.

Qualitative research is carried out on much smaller samples, often selected in a targeted way, based on specific criteria distinguished for the purpose of research.

Whereas quantitative research allows us to answer questions like „If and to what extent...?“, qualitative research allows us to answer questions like „Why...?“.

A good example of a qualitative research is the „Wpływ wdrożenia ISO 9001 na konkurencyjność firmy“ (ed. The impact of implementation of ISO 9001 on the competitiveness of a company) survey, carried out by PB Online Sp. z o.o., by means of an Internet questionnaire on the population of quality specialists and managers of Polish companies (report on the survey is available at [www.wiedzadlafirm.pl](http://www.wiedzadlafirm.pl)). In course

of the survey, information whether a company had the quality management certificate ISO 9000 and data on a series of indicators reflecting the competitiveness of a company were collected. On this basis it was possible to conclude whether there is a correlation between these characteristics – the fact of having the certificate and indicators showing the level of competitiveness. Additionally, as the collected data covered both the period before and after obtaining the certificate, it was also possible to verify the direction of this correlation – what is the cause and what is the effect – whether implementation of the system of quality management resulted in improving competitiveness or the other way round - fast-developing companies decide to obtain a certificate to gain prestige or for other reasons. Unfortunately, the results of the survey didn't provide an answer to the question why it is happening this way. Which of the elements of the quality management system actually improve a company's competitiveness and which burden the company with additional paper work? To answer this question it would be necessary to apply the qualitative method (eg. individual interviews with representatives of the management).

A very important criterion distinguishing various kinds of research is the subject. We can ask the respondents about their knowledge, habits, subjective feelings or their attitude to particular phenomena. The following are examples of kinds of research identified based on the criterion of subject:

- Product research – carried out eg. in course of launching new or improved products/services, modifying packages.
- Segmentation research – segmentation of the market based on socio-economic criteria.
- Investigating the efficiency of promotional campaigns – spontaneous and aided knowledge about promotional activities carried out by a particular company.
- Research on brand image – research focusing on awareness, feelings and attitudes towards brands of rivals' products.
- Usage&attitude research.
- Price research and tests.
- Surveys of loyalty and satisfaction (eg. employees, consumers),
- and others.

In literature we can find many other classifications of research depending on various criteria. One of these criteria is the frequency of carrying out a research. We can distinguish here between continuous, periodical or occasional (ad hoc) research. Within continuous and periodical research we can distinguish between tracking research (repeated systematically at even time intervals). Following editions of tracking research can be carried out on the same sampling frame or even the same sample, which then could be called panel research.

Another criterion for classification concerns the purpose of the research in the context of the result that the researcher wants to achieve. Most kinds of research are explanatory in character – their purpose is to give an answer to particular questions. However, sometimes we want to make only the first step which involves identifying the problem or understanding the essence of the investigated phenomenon or process in order to obtain data for reasonable conclusions – then we are dealing with exploratory

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research.

Exploratory research very often precedes explanatory research and allows us to prepare high quality research tools (scenarios of interviews, questionnaire etc.). If the explanatory stage covers a broad area (also geographic area), an online questionnaire often allows us to investigate the issue quickly and efficiently and obtain information improving the quality of tools applied at the exploratory stage.

Another factor for the classification of research is the kind of surveyed population. We can for example survey our own employees (eg. surveying the satisfaction of employees), our contemporary and past clients (eg. investigating the satisfaction and needs of customers), potential clients or even the whole population regardless of the respondent's relation to the subject of the research (eg. identifying brand image).

If the financial capacity of an institution carrying out or ordering a research is limited, the institution can consider carrying out syndicate research, that is, research carried out jointly by a number of entities.

Another way to reduce the costs of research is taking advantage of omnibus studies. Omnibus is a multi-thematic study carried out for many clients at the same time. One client can order one or more question on a particular subject. In such case the questionnaire includes questions concerning various issues.

### **Online questionnaire in the context of the presented classification of kinds of research**

Online questionnaire, due to its characteristics, is a quantitative method. That's why it is an ideal tool for investigating image, marketing communication, needs and satisfaction. Thanks to the fact that it is possible to present graphic materials, video and audio materials, it is a very good tool for product and segmentation research.

The above-mentioned functionalities allowing us to share multi-media files on the Internet or advanced mechanisms allowing interaction with the respondent (eg. respondent downloads multimedia content) expand the scope of utilization of this tool also to issues associated with obtaining qualitative data.

In this context it is necessary to stress the usefulness of Internet questionnaires in research on highly specialist subjects, requiring provision of additional explanations, not only in text, but also in images, as well as audio and video recordings. The possibility to lead the respondents along particular branches depending on his answers to previous questions allows us to minimize the effort of the respondent and reduce the time he devotes to the survey. Very often research units have such expectations, as they carry out research on highly complex matters, which require comparably long questionnaires and high accuracy of applied terms.

Internet questionnaire is especially useful in research, where the relation between the researcher and the respondent is not fully anonymous in character or where there is a risk that the pollster may have an impact on the respondent's attitude and opinion.

Internet questionnaire is also useful in syndicate or omnibus research. In case of the latter, its development will involve above all thematic omnibus, in which questions in a survey concern one area and the

target group is limited (eg. Omnibus on business subjects covering management of small and medium enterprises).

An example of Internet-based syndicate research is the barometrmiast.pl initiative. The town barometer is a research project, which is supposed to provide the authorities of small and medium town with reliable data allowing them to identify the the inhabitants' needs and their level of satisfaction with various aspects of life in their towns.

The Internet questionnaire was launched at the website of Internet surveys pbonline.pl in August 2010. 40 towns (among others: Kluczbork, Kołobrzeg, Łomża, Przemyśl, Skierniewice, Giżycko) of various size and from various regions joined the project. The list of towns participating in the research is constantly growing. The questionnaire was prepared in cooperation with representatives of local authorities. It includes series of issues which affect the comfort of life in a particular town, among others, what the town offers in terms of education, culture and leisure, the comfort of life, the quality of the labor market, level of safety, quality of municipal services, technical infrastructure and the work of local administration.

Picture 1. Banner with a link to the study Cities Barometer



A town which joins the project receives an individual link to a questionnaire and in the form of a banner puts it on its town council's website or other websites with local coverage. A respondent who clicks the banner is redirected to the questionnaire located at the pbonline.pl website. The given responses are recorded in databases and every town has its own link to the questionnaire.

Once in a quarter the town council receives results of the research on the population of its inhabitants. What is very important is the fact that the results are also compared to the average values calculated for the whole population of respondents from all towns. Thanks to this local authorities are able to assess whether particular results are just good/ average/ weak as absolute value, but they can also compare their position with other towns from the whole country.

It is necessary to remember that the results of syndicate research are usually available for all entities involved in the research process. Thus, it is useful when it can boost the competitiveness of a more or less formal group of institutions, cooperating within one chain of supplies (eg. entities cooperating within

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a particular branch). From the perspective of the needs and characteristics of research units, syndicate research can be recommended especially in case of various kinds of group initiative like clusters, project consortia, in which research units are often involved.

### **Who do we want to learn about and who do we want to survey?**

Target groups for every Internet survey can be divided into two kinds:

1. In case of this target group the researcher can easily reach its members (potential respondents) –  
- he has the appropriate address database, including the approval to send e-mails with invitations to participation in a survey.
2. In case of these target groups address databases are either not available, or creating them would be very hard/expensive. This concerns above all such populations which are distinguished based on untypical traits such as: interests, attitudes, activities in professional or personal life and other traits not included in traditional address databases.

Whereas in case of the first of these two groups the choice of the research method will be determined by criteria other than whether it is easy to reach the respondent, there are target groups it would be either impossible or very expensive to reach using traditional methods (questionnaires in mail, phone interviews) – in such a situation Internet is the only efficient way of obtaining respondents.

Let's imagine we want to survey people who at the time of the survey are looking for an apartment/house on a defined geographical area. Reaching population defined this way by means of phone interview or traditional mail is almost impossible or would be very expensive. It is because there are no address databases including information about people's plans for purchasing an apartment/house and the only way to reach the respondents is random selection from the sampling frame representative for the whole society together with a filtering question concerning such plans. Unfortunately, the share of people looking for an apartment/house in the whole society is very low, which greatly increases the costs of reaching respondents.

At the same time, resorting to the method of Internet questionnaire, we could buy a banner ad on websites of real estate agents, which would be displayed only to the Internet users searching for an apartment/house in our desired area by means of the websites' search engines. As a result the Internet advertisement will be shown only to people who meet our expectations. The contextuality of promotional activities on the Internet allows the researcher to reach very specific target groups, distinguished by their hobbies, interests, attitudes in social life, profession and many others. Reaching them through traditional channels of promotion would be very expensive or even impossible.

### **Defining the target population**

At this stage of preparation of a research we need to answer the question about the kind of population we would like to investigate. We need to decide whether we want to focus on the population of the whole world, of Europe, a particular country, region, community or even a smaller local group. We can also limit

the surveyed population through other criteria of social or economic kind.

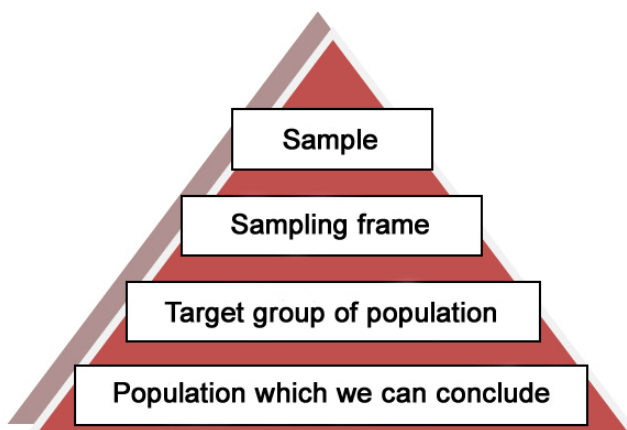
Can a producer of lingerie who wants to learn about the needs of his clients, limit his target population to women above the age of 18, as he directs his offer to them? The answer to this question depends on who buys this lingerie. It could turn out that a major group of customers are men buying lingerie as gifts. As a result the target group for the survey should obviously also cover men.

As soon as we decide on the profile of our target group, we have to find out how to reach this group. In other words, in the context of Internet questionnaire we need to find out whether the target population has access to the Internet and uses it to a satisfactory extent.

Often the method of Internet questionnaire is presented as an unrepresentative method, because not everybody has access to the Internet. In Europe there are countries, where 90% of population has access to the Internet (Finland, Denmark, Holland, Sweden, Norway). However, there are also countries where this ratio hasn't even exceeded 50% yet (eg. Greece, Portugal, Bulgaria, Romania). Back in 2008 in Italy only 42% of population had access to the Internet. However, the positive direction of changes is undeniable – a good example here is Finland, where on July 1, 2010 the right to Internet connection with speed of at least 1 Mb/s was written down in a statute.

In practice Internet is often more popular than land line telephone and it is the Internet method that grants smaller error of coverage.

**Picture 2. Since the population, which we propose to study sample**



In Poland the ratio of access to the Internet exceeded 60% in 2011 and for many populations it exceeds 95%, which means that this channel of communication in these populations makes research highly representative. Among companies employing at least 10 people 90% have Internet access.

Indeed, not everyone has Internet access, but it doesn't mean that in all cases Internet questionnaires will not be representative. In many cases the surveyed population, in terms of its structure, doesn't



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have to and shouldn't correspond to the structure of population of the whole society. One of the factors determining whether a survey is representative is the degree to which the surveyed sample reflects the surveyed population. This means that Internet questionnaire won't be representative in political polls or in other surveys on the attitudes of the whole society, with consideration of various criteria characterizing the population. However, it can certainly be used in research on populations, where using the Internet is a widespread phenomenon.

A very interesting research comparing the efficiency of an Internet questionnaire with a traditional paper questionnaire was carried out in 2007 in the United States on a population of employees of 10 big hospitals, which at the time of the survey employed up to 21,000 people<sup>1</sup>. In the research two methods were used at the same time. Allocating a particular employee to one of the methods was random. The comparison of results obtained by two different methods didn't show any substantial differences both with regard to the profile of respondents and the subject of the survey, that is, work satisfaction. It turned out that the result of the research were statistically comparable regardless of the applied research method.

The geographical coverage of the research also plays a major role in the choice of the research method. The broader the coverage, the more advisable the method of Internet questionnaire due to substantial savings it generates. Research units, due to their market specialization, are forced to run activities not only on a national, but also on an international level. As a result also the research carried out by such institutions is international in character. Contextuality of the Internet and the possibility to reach recipients defined in advance functions on a global scale. Carrying out activities promoting a link to a questionnaire, we need about the same effort and resources to reach both domestic and foreign websites on the subject we are interested in. Most professional platforms for carrying out online surveys offer multilingual versions and the only additional expense in this case is translating the questionnaire or adapting the characteristics of the materials promoting the questionnaire to the requirements and specificity of the foreign markets.

### **Choosing the method for the selection of respondents – random sample / convenient sample**

Convenient sample is a sample consisting of elements of population chosen by the researcher in a non-random way – for particular elements of the population the chances for being included in the sample are varied.

The assessment, whether a particular method of collecting a sample is random or convenient depends, among others, on the kind of population we want to investigate. This assessment is very important as random choice generally allows us to draw conclusions about the whole population, but convenient choice may result in errors of coverage. It is because not every representative of a population has a chance to make it to the research sample. Thus, the size of the error in case of convenient choice may be substantially higher.

In other words, if the likelihood of receiving an invitation to participate in a questionnaire is identical for the whole population of potential respondents randomly drawn from the address database (sampling

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*1 S. B. Gesell, M. Drain, M. P. Sullivan, Test of e Web and Paper Employee Satisfaction Survey: Comparison of Respondents and Non-Respondents, International Journal of Internet Science, 2007, 2 (1), p. 45-58.*

frame), then we have a random sample. However, if only the users of a particular website had access to the questionnaire (banner linking to the questionnaire was located only on one website), such choice will be called a convenient sample.

It is best to demonstrate this with an example: Let's assume that we are carrying out a research on the way of feeding snakes. On the Internet we found 4 websites devoted to the subject of snakes. Three out of these four websites offer online shops with food for snakes. Further investigation shows that the scale of influence of other Internet sources of information on the matter is negligible. Moreover, the above-mentioned three online shops have a 90% share in Internet sales of food for snakes. A banner with a link to the questionnaire was put up on all 4 websites.

Is this kind of selection of respondents a random or a convenient sample? It is worth pointing out here that the aim of the research is not to find out what share of people in Poland own Boa snakes, but rather to find out what the attitudes and behaviour of people who have Boa snakes are.

Advertising the survey on the above-mentioned websites, will make only owners of Boa snakes participate in it. However, it is necessary to remember that only Boa owners who have access to the Internet and who visit websites about Boa snakes will take part in the survey. Certainly, there is a sizeable population of Boa snake owners who don't have access to the Internet and for sure there is a population of Boa owners who have access to the Internet, but don't visit websites concerning Boa snakes.

If on the basis of data collected by an Internet questionnaire aimed at Boa owners we want to draw conclusions about the whole population of Boa owners (regardless of the fact whether they use the Internet and/or visit websites concerning Boa snakes), the selection of respondents by means of websites about Boa snakes will provide us with a convenient sample. As a result, there will be an error of coverage, as the attitudes, behaviour and opinions of the owners with Internet access and using websites on the subject of Boa snakes, may differ from the attitudes, behaviour and opinions of the owners who have no access to the Internet or don't visit websites about snakes.

However, if we intend to draw conclusions only about the population of Boa snake owners who have Internet access and visit websites concerning snakes, it will be a random sample.

Obviously, in order to regard this kind of selection as a random sample, it would be necessary to make sure that the questionnaire is available on the above-mentioned websites long enough for every Boawinning Internet user to notice the banner linking to the questionnaire.

Relating this example to the needs and specificity of a research unit, it is necessary to conclude that if a research unit wants to investigate the needs of customers of companies forming a cluster, which it animates, and on the websites of all members information about the survey is published and at the same time members of the cluster e-mail an invitation to the survey to their clients, we will get a sample of a largely random character. However, if we apply a similar method of reaching respondents in case of a survey which is supposed to assess the condition of the branch to which the cluster belongs and the share of the companies from the cluster in the whole branch is small, such selection of respondents will be convenient in character.

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## Preparing an Internet questionnaire – practical hints

The following chapter presents exemplary hints which can be helpful at the stage of preparing an Internet questionnaire. Unfortunately, due to the limited capacity of this article and the complexity of the discussed subjects, these hints certainly don't fully cover the whole process of creating an Internet questionnaire. Additionally, due to dynamically changing conditions of conducting surveys on the Internet and comparably short history of application of this method by research companies, many aspects are still subject to presumption and intuition.

The chapter is divided into three parts, which correspond to the goals, the researcher wants to achieve:

- hints which contribute to maximizing the quality of collected data,
- hints which boost the willingness of the target group of the survey to start filling out the questionnaire and
- hints which reduce the scale of resignation from filling out the questionnaire.

Relating these goals to the kinds of errors in marketing research, it is necessary to add that achieving the first of these goals contributes minimizing the error of measurement, the achievement of the second and the third goal minimizes the error of coverage and the lack of response.

However, the suggested division of hints is discretionary and following a particular hint may often contribute to achieving all three goals. The sequence of particular hints is not associated with their importance – each of them, under particular conditions, may be both essential and comparably less important for the success of a research project.

## Functionalities raising the quality of collected data

### Blocking backtracking

Let's imagine the following script of a questionnaire – on the first screen – typical page from a glossy magazine, advertisement at the top and an article below the advertisement. The respondent is given the following instructions: „Read the article carefully and next we will ask You a few questions“. The respondent, who finishes reading the article, goes to the next screen of the questionnaire, where he can read the following notice: „We would like to ask You not to go back to look at the previous page of the questionnaire again. The questions we will ask You concerns the advertisement placed above the article You have read.“ Unfortunately, it can be expected that a major group of respondents won't comply with this request – for various reasons – pure curiosity, the desire to display high perceptiveness, absent-mindedness and many others. In an Internet questionnaire there is no such risk – most solutions available on the market have the function of blocking going back to the previous screens of the questionnaire.

### Monitoring the time of filling out a questionnaire

The diligence of filling out a questionnaire depends to a large extent on the amount of time devoted to the task. Thus, it is advisable to monitor the time used by particular respondents to fill out a questionnaire (from the moment a respondent starts filling out the questionnaire to the time he leaves it), questionna-

ires filled out over a time much shorter than average should be subject to special verification. It could be done for example by comparing the results of questionnaires filled out in a very short time with the remaining questionnaires. Significant differences between the two populations may point to insufficient diligence of some of the respondents. This issue is the more important, the more attractive the gift that awaits the respondent at the end of the questionnaire. Some researches show that giving a gift to a potential respondent before he decides to participate in a survey has varied effects on his willingness to participate in the survey. However, it usually has a very good impact on the quality of the collected data.

### **Explanations and definitions**

What makes Internet questionnaires exceptional is the fact that the respondent is fully independent in the process of filling out a questionnaire. In case of an Internet questionnaire the respondent reads and answers question himself. This means that the interviewer doesn't influence the respondent in any way. On the other hand it is very important to make sure that questions are formulated in a clear and precise way, because the respondent doesn't have the opportunity to ask about the subject of the question.

However, the independence of the respondent may be a substantial cause of distortion of the collected data, if the questions are inaccurate or if the respondent has doubts about the interpretation of the concepts applied in the questionnaire. In such case the role of a well-prepared questionnaire is crucial, as even the most precise questions may raise doubts. In such cases it is recommended to include in the questionnaire definitions the respondent can look up if necessary. The importance of including explanations was shown by the research conducted by scientists from the University of Michigan.<sup>2</sup>

They investigated the respondents' inclination to using hints, depending on the way these hints are displayed. It turned out that the method of presenting explanations which required less effort from the respondent, attracted more interest of the respondents than the method which required some more effort. In the research it was concluded that explanations shown when moving the pointer over a certain area are more often used by the respondents, than those which require clicking a link under which an explanation can be found.

### **The number of questions on one screen**

One of the kinds of error of measurement in surveys is the modification of an answer to a particular question as a result of reading the following question. Displaying many questions on one screen encourages the respondent to read further questions, which may eventually affect the content of given answers. A long screen with many questions has yet another flaw – it requires using the scrolling bar. Scrolling a website screen may be uncomfortable for the respondents and discourage them from filling out the questionnaire.

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<sup>2</sup> F. G. Conrad, M. P. Couper, R. Tourangeau and A. Peytchev, *Use and Non-Use of Clarification Futures in Web Surveys*, *Journal of Official Statistics*, Vol. 22, No. 2, 2006, p. 245-269.

## Only the necessary questions

It is necessary to avoid questions which won't provide us with any useful information or which provide us with information which can be obtained automatically (eg. the date of filling out a questionnaire).

Nevertheless, it is worth remembering that sometimes such questions may be used to verify the quality of the collected data. For example, if we know the sex of the respondent, we can ask a question from this area and the number of incorrect answers will be a measure of the respondent's diligence in filling out the questionnaire.

## Graphics in questionnaires

In many surveys image is a key aspect of assessment – a good example here is research aimed at identifying the best packaging from the perspective of marketing policy. A producer of juice wants his product to be regarded as healthy, fresh and full of vitamins. The packaging of juice has key significance in the way it is regarded by the customers. For this reason juice producers often resort to Internet questionnaires to carry out a kind of contest for the best packaging out of a pool of various packagings prepared by an advertising agency.

Picture 3. An example of graphics in the study „Home on the Water”



Graphics may help the respondent understand the subject of a question, according to the rule that one image is worth more than a thousand words. Using graphics in an Internet questionnaire is illustrated by picture 5. However, using graphics in questionnaires is not always beneficial. It is necessary to use it with great care and caution. As research shows, graphics may impact the obtained results. For example: The answer to the question about the frequency of shopping last week may vary depending on whether the

question was accompanied by a picture showing the interior of a food shop or a picture showing a department store. We generally visit the first kind of shop more often and as a result the frequency of shopping estimated by the respondents is increased, when the question is accompanied by an image of a food shop.<sup>3</sup>

### **Anonymity of questionnaires**

One of the most important advantages (and at the same time disadvantages) of Internet questionnaires is full independence of the respondent in the research process – it is the respondent who decides whether to take part in a survey and whether to fill it out till the end. The possibility to fill out a questionnaire at a pace adequate for a particular respondent is beneficial above all in case of questionnaires which require focusing and a moment to think.<sup>4</sup> Often, even an unsubstantiated feeling of anonymity makes the respondent give more honest results and the comfort of filling out a questionnaire at any pace has a positive impact on the quality of the collected data. As has already been mentioned, this is both an advantage, as the respondent is more honest, but also a disadvantage as the respondent finds it easier to provide false information or fill out the questionnaire in another, dishonest way.

Statistical analysis of the results of customer satisfaction questionnaires located on the websites of training companies – clients of the [www.pbonline.pl](http://www.pbonline.pl) website, who after finishing training sent the participants of their trainings the link to a questionnaire assessing the training – in comparison to the results of paper questionnaires filled out after the conclusion of the training, allows us to notice significant difference in the value of standard deviation from average assessment of trainings obtained through both methods. Respondents taking part in the Internet survey were more likely to express more extreme opinions. On the one hand it comes from the fact that a paper questionnaire is usually filled out by all participants just after the end of the training, but filling out an Internet questionnaire is on principle not obligatory – as a result it was filled out by the participants who assessed the training as very bad or very good. Strong emotions following the training encouraged some participants to click the link redirecting to the questionnaire and express their opinion.<sup>5</sup>

The confirmation of the phenomenon of greater inclination to express more honest opinions, including above all answering all sensitive questions in an Internet questionnaire can be found in a research which was supposed to compare results collected using various methods - telephone interview, Internet questionnaire and mail questionnaire. It turned out that the respondents of a telephone interview were less likely to admit searching for erotic content on the Internet, in comparison both to respondents of an Internet questionnaire and the respondents of a paper questionnaire. Moreover, the difference between the declared frequency of searching for this kind of content on the Internet between the respondents of the paper questionnaire and the Internet questionnaire was small. Thus, it can be concluded that

3 V. Toepoel, M. P. Couper, *Can Verbal Instruction Counteract Visual Context Effects In Web Surveys?*, *Public Opinion Quarterly*, Vol. 75, No. 1, Spring 2011, p. 1-18.

4 D. Dec, *Online marketing research (CAWI) on the www.pbonline.pl platform*, PB Online Sp. z o.o., Wrocław 2010, ISBN 978-83-932112-0-3.

5 Not published own materials prepared on the basis of results of questionnaires collected by training companies through [www.pbonline.pl](http://www.pbonline.pl), PB Online Sp. z o.o., 2010.

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the lower proportion registered in case of a telephone interview can be ascribed to the influence of the interviewer and lower anonymity of the survey.<sup>6</sup>

## Methods of boosting respondents' participation in surveys

### Gift

On principle, the participation of a respondent in surveys should not be associated with any pecuniary gratification. Then, there is high probability that the respondent decided to share his opinions with the researchers out of his own free will. In practice of Internet surveys, respondents often receive pecuniary gratification or gifts in form of material goods (electronic gadgets, books, t-shirts etc.) or non-material goods (eg. an e-book).

A most common form of gratification for respondents on the domestic market of Internet surveys are points which can be exchanged for money or other material prizes.<sup>7</sup> More effective, both in terms of costs and the influence on the quality of collected data are gifts of non-material character, in form of electronic works – eg. e-books, manuals, tests and others, which may concern subjects interesting for the respondent. Such gifts are possible, as usually applications for Internet surveys allows uploading a file the respondent can download from the end screen after filling out the questionnaire. Additionally, the file can be placed on a server and it is possible to send a link to the file in the invitation to the survey – as it turns out that often it is better to grant the respondent access to the gift before he fills out the questionnaire (the so-called unconditional gift), and thus evoke the feeling of obligation in a potential respondent. An efficient and effective way of gaining respondents are also various kinds of discounts for products/services, which may be interesting for potential respondents, under the condition that they don't have a negative impact on the representative value of the research. Technically, the distribution of discounts among respondents can be carried out by sending out discount codes to the e-mail address given by the respondent in the text field located on the last screen of a questionnaire<sup>8</sup>.

What is typical of non-material gifts is that they can be obtained directly after filling out a questionnaire. It is the fact of immediate reception of a gift, just after finishing the questionnaire (or even before filling out) is a factor which has a substantial impact on the willingness to participate in a survey. The positive effects of „immediacy“ of a gift have been confirmed in an experiment in which the behaviours of 4 populations with similar socio-demographic traits (unemployed people in Croatia) were compared. They were offered the following conditions of participation in a long psychological questionnaire containing 170 questions: lack of gift, a gift in form of a report with the results of the survey, the opportunity to win an amount equal to a quarter of the average monthly salary, where the winner is revealed within a month after filling out the survey and the same prize awarded directly after completion of the questionnaire.<sup>9</sup>

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6 K. L. Manfreda, V. Vehovar, *Mode Effect in Web Surveys*, American Association for Public Research, 2002.

7 According to the author, any kind of pecuniary gratification for participation in surveys is a bad solution, as it attracts dishonest respondents and diminishes the reliability of the collected data.

8 D. Dec, *Online marketing research (CAWI) on the www.pbonline.pl*, op. cit.

9 T. L. Tuten, M. Galesic and M. Bosnjak, *Effects of Immediate Versus Delayed Notification of Prize Draw Results on Response Behavior in Web Surveys: An Experiment*, *Social Science Computer Review* 2004; Vol. 22; No. 3, Fall 2004, p. 377-384.

Depending on the kind of gratification the willingness to fill out the questionnaire was as follows: 62.3% in case of the lack of a gift, 69.3% in case of a report on the results of the survey, 70.6% in case of delayed gratification and 76.6% in case of immediate financial gratification.

First of all it is necessary to notice the fact that the difference between the lack of a gift and the gift with the highest efficiency is not that big and amounts to 14.3 percentage points. Second thing is that it is necessary to emphasize the fact that receiving the results turned out to be as effective as a delayed and comparably high financial reward. As expected, the most efficient gif is the opportunity to win a prize immediately after the completion of the questionnaire.

The choice of the gift is a crucial issue as it can substantially distort the results of a survey. A good example illustrating this risk is a fictious research concerning culinary habits and behaviours with focus on the analysis of the market of spices.

Let's assume that an Internet questionnaire targeted at people who cook at home at least twice a week and what's most important, are interested in culinary novelties and at least once a week cook dishes from a cuisine other than Polish. The questionnaire may be advertised on websites devoted to cooking. A gift for filling out the questionnaire is an e-book with 100 recipes from the Greek cuisine. Is the choice of the gift correct? Unfortunately not. The gift, due to its characteristics and limitation to Greek cuisine will attract mainly fans of the Greek cuisine, which will lead to distorting the results of the research. A much better gift in the context of goals of the survey and its target group would be a publication titled „100 recipes from international cuisine“ or „Spices in international cuisine – 100 recipes from all around the world“.

### Personalizing surveys

Personalizing surveys (eg. greeting by name in the invitation, individual login and password for a questionnaire) affects the willingness to participate in a survey in various ways. A research on a comparably large population of students of the University of Leuven (2,479) showed that a highly personalized questionnaire encouraged 69.09% of students to participate in it, as compared to 62.35% in case of a non-personalized questionnaire. Moreover, in case of the highly-personalized questionnaire 8.95% of students didn't complete the questionnaire, whereas in case of the non-personalized questionnaire 14.17% of students failed to finish it.<sup>10</sup> This research also showed that it is not advisable to personalize a questionnaire in case of questions concerning sensitive issues. Higher level of personalization decreases the level of anonymity expected by the respondent. According to this logic, in practice those preparing employee satisfaction questionnaires and to a smaller extent customer satisfaction questionnaires abandon personalization. However, there is a series of researches (Porter i Whithcomb, 2003; Zajac, 2006), which show that the level of personalization doesn't have a substantial impact on the behaviours of the respondent. It is also probable that in the context of personalization the combination of the authority of the organizer of the survey and his power over the respondents has the biggest impact on the behaviours of the respondent. It is also necessary to emphasize that the willingness to participate in a survey is sub-

<sup>10</sup> D. Heerwegh and G. Loosveldt, *An Experimental Study on the Effect of Personalization, Survey Length Statement, Progress Indicators, and Survey Sponsor Logos in Web Surveys*, *Journal of Official Statistics*, Vol. 22, No. 2, 2006, p. 191-210.



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stantially higher in a situation where the person conducting the research or the sender of the invitation is a member of the surveyed group or if this group has a common identity.<sup>11</sup>

### **Length of questionnaires**

The length of a questionnaire has a substantial impact on the willingness to fill it out. However, it is advisable to distinguish between the length of a questionnaire measured with the number and scope of questions and the expected time of filling out usually measured in minutes. On the one hand a multiple choice question with three possible answers like yes/no/don't know requires less time than a multiple choice question with a cafeteria including 15 possible answers. On the other hand the same questionnaire may be filled out by one respondent in 5 minutes and in 10 minutes by another respondent. To some extent it may result from external factors such as the speed of Internet connection and to some extent on factors depending on individual characteristics and predispositions of a particular respondent.

The issue of the length of a survey appears already at the stage of formulating an invitation to the survey. Research shows that even the degree of accuracy of information concerning the length of a questionnaire has great significance – the more accurate the information (7 minutes instead of 5-10) the greater acceptance among potential respondents. Thus, it can be expected that also additional information about the number and kind of questions (open/closed) may have an impact on the willingness to participate in a survey. Preparing a questionnaire, we should assume that the more the respondent knows about the questionnaire the easier it is for him to make a positive decision with regard to participation in the survey.

This is also true about other issues such as the identity of the entity carrying out the survey, its purpose and subject as well as the way results are used.

### **Attractiveness of the subject of the questionnaire for respondents**

A good example of positive influence of attractiveness of the subject of the questionnaire on the response rate is the survey of attitudes, opinions and behaviours of book lovers.<sup>12</sup> The target group of the survey were people who read a lot and are interested in books. The survey was advertised on 19 websites devoted to books and at the same time on Facebook. Within a few days (June 2010) a total of 1,721 questionnaires were obtained. The partners of the survey who obtained the biggest numbers of questionnaires were: BibliNETka.pl (401 questionnaires) and Lubimyczytac.pl (225 questionnaires). Over 800 questionnaires were obtained through Facebook and the remaining questionnaires came from links positioned on the remaining websites devoted to books. The scale and reach of advertising activities were big enough to regard the selection of respondents as a random sample, if we limit the research to the population described as „book lovers visiting websites devoted to books”. Comparably high participation of respondents in the survey comes from the fact that the subject of the survey was very interesting for

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11 J. M. Zajac, D. Batorski, *Jak skłonić do udziału w badaniach internetowych: Zwiększanie realizacji próby*, 2007/2008.

12 A report on the results of the research is available on: [http://issuu.com/literadar/docs/raport\\_ksiazki\\_16.08](http://issuu.com/literadar/docs/raport_ksiazki_16.08).

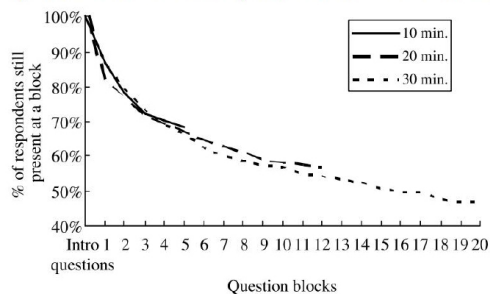
the target group and the final report was a form of gratification for respondents, most of whom entered their e-mail address on the final screen of the questionnaire in order to receive a report from the survey.

Another example of an attractive Internet survey is the questionnaire conducted by one of tv comedy channels expanding its offer in Poland. The questionnaire contained fragments of movies/comedy series, which hadn't been broadcast in Poland. After watching one fragment the respondent was asked to answer a few questions verifying, among others, his level of approval for the presented kind of humour, level of understanding. The questionnaire was attractive from the point of view of a person who watches movies/comedy series – thanks to this the questionnaire was filled out by people who are interested in this kind of entertainment – thus, potential customers of the company ordering the research. The creators of the questionnaire used a very useful function of random display of questions, in this case of fragments of films. Thanks to this each fragment had an identical chance to appear both at the beginning, in the middle and at the end of the questionnaire. Moreover, if the respondent decided to stop filling out the questionnaire at a certain moment, it didn't have any negative impact on the quality of obtained data. Thanks to the rotation of displayed fragments of films, regardless whether a respondent stopped filling out the questionnaire after two or all twenty fragments, each assessment was evaluated from the perspective of the following analysis. Moreover, even the number of films watched by the respondent was a piece of information that could be subject to analysis, as questions about the respondent's particulars were located at the beginning of the questionnaire, which allowed cross analysis of the number of watched films in comparison with answers to questions about particulars.

### Methods for reduction of the phenomenon of resignation from filling out a survey

The issue of abandoning participation in a survey is as important as the issue of obtaining a respondent. The significance of the problem is illustrated by the following chart, which includes data concerning the pace of respondents' resignation from filling out a survey. Obviously, the scale of resignation depends on many factors, however, it seems that the following data are to a large extent representative for most Internet surveys.

**Picture 4. Percentage of respondents who continue filling out a questionnaire in a division into three groups, according to the estimated time for filling out a questionnaire**



Source: Mirta Galesic, *Dropout on the Web: Effect of Interest and Burden Experienced During an Online Survey*, *Journal of Official Statistics*, Vol. 22 No. 2, 2006, p. 313-328.

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## Indicator of progress

Even though, intuition may suggest that an indicator of progress should have a positive impact on the scale of resignation from questionnaires, quantitative research doesn't confirm such relation directly. In a research conducted by Dirk Heerwegh and Geert Loosveldt,<sup>13</sup> the difference in the scale of resignation between the population of respondents who could see an indicator of progress and the population of respondents who couldn't see their progress, was negligible. The scale of resignation for both populations was 11.27% and 12,55%, respectively. What may have caused this slight difference is the fact that respondents could themselves choose between two options: „with the indicator of progress“ or „without the indicator of progress“. Majority of respondents (77.7%) decided they wanted to fill out the questionnaire with the indicator of progress. Thus, it is uncertain what the difference in the scale of resignation would be, if the respondents didn't have the opportunity to decide whether they want to have an indicator of progress or not. The fact that over 3/4 of respondents selected the option „with the indicator of progress“ suggests that the indicator may have an impact on the scale of resignation from filling out a survey.

Moreover, the presence of the indicator of progress may have various effects depending on the length of the questionnaire. In case of longer questionnaires the indicator of progress allows the respondent to conclude whether the questionnaire is longer than expected and make a rational decision of abandoning the questionnaire. At the same time in case of shorter questionnaires, the indicator of progress may be an incentive to fill out the whole questionnaire, as it highlights the respondent's high pace.

## The possibility to leave sensitive questions unanswered

One of the advantages of Internet questionnaires is the opportunity to freely define whether giving an answer to a particular question is obligatory or not. Some applications also allow programming further events (messages, content of subsequent questions) if no answer is given to a non-obligatory question.

Such functionalities are useful also in practice, because in many cases the obligatory character of some sensitive questions (eg. about sexual behaviours, possessed assets, health condition and many others), results in increased resignation from participation in surveys.

A very good solution in case of questions concerning sensitive issues is providing options like: „I don't know“, „It's hard to say“ or simply „I don't want to answer this question“. However, it is necessary to remember that adding such questions to the cafeteria encourages respondents who would normally answer the question if they didn't have such an option, to refuse to provide an answer. That's why a more efficient solution is to provide the opportunity to go to the next screen without giving an answer, at the same time making sure that the lack of answer is not the effect of that eg. the respondent didn't notice the question (eg. by a message „Question X unanswered, however, you can go to the next question if you don't want to answer“).

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<sup>13</sup> D. Heerwegh and G. Loosveldt, *An Experimental Study on...*, op. cit., p. 191-210.

## Avoiding open questions

Internet questionnaire is a method used in quantitative research and it is necessary to avoid including open questions in it. An exception are situations where the surveyed target group is characterized by higher than average level of education and the subject of the research lies within the group's scope of interests. As a result, they have strong and stable opinions on the subject of the research. In other case, open questions, if they are obligatory, may be one of the most important reasons for resignation from filling out questionnaires.<sup>14</sup>

## Carrying out a survey – data collection

### Ways of distributing questionnaires

One of the ways of increasing the respondents' participation in a survey is applying mixed methods of reaching them. Zając and Batorski refer to a series of researches confirming the benefits of such an approach.<sup>15</sup> Nevertheless, applying parallel methods of selecting respondents may not be an efficient solution. A research carried out by M. M. Millar and D. A. Dillman<sup>16</sup> showed that offering the respondent a choice (eg. mail questionnaire vs. Internet questionnaires) resulted in lower combined response rate, in line with the mechanism that when a respondent has to make a choice, he is less likely to take any action (Schwarz, 2004).

The advantages and disadvantages of particular methods of distribution are presented in Table 2. Pictures 5 and 6 present examples of a website dedicated to a survey and a pop-up advertisement linking to a questionnaire, respectively.

Picture 5. Website of a survey on the students from Podlaskie voivodship



Source: [www.podlaskiebiznes.pl](http://www.podlaskiebiznes.pl)

14 M. Galesic, *Dropouts on the Web: Effects of Interest and Burden Experienced During an Online Survey*, *Journal of Official Statistics*, Vol. 22, No. 2, 2006, p. 313-328.

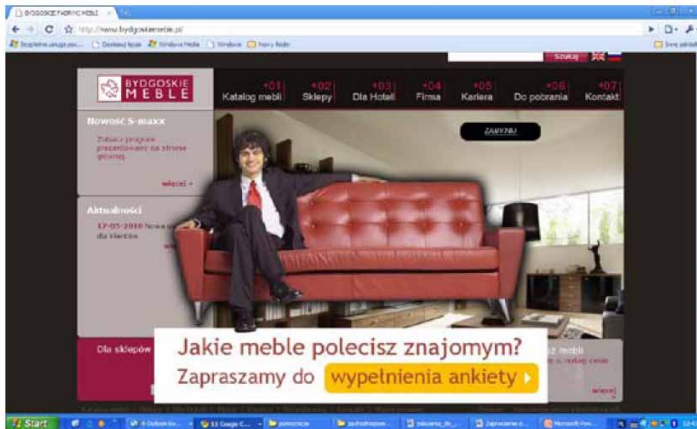
15 J. M. Zając, D. Batorski, *Jak skłonić do udziału w badaniach internetowych: Zwiększanie realizacji próby*, 2007/2008.

16 M. M. Millar, D. A. Dillman, *Improving Response to Web and Mixed-Mode Surveys*, *Public Opinion Quarterly*, Vol. 75, No. 2, Summer 2011, p. 249-269.

**Table 2. Ways of reaching respondents with an Internet questionnaire**

Ways of reaching	Advantages	Disadvantages
Panel (e-mailing with the use of address databases of research companies)	High response rate. <sup>17</sup>	High risk of participation of professional respondents.
	Short time of implementation.	Limited level of representative value for the population in general (large error of coverage).
	The possibility to control the respondent in the context of control of reliability of given answers.	High cost in case of panels of research companies, which have to bear high costs of verification of address data.
	The possibility to send a reminder about a questionnaire.	
Alien e-mailing (using address databases obtained from external providers)	Moderate response rate in case of e-mailing characterized by a high level of adjustment of the subject of research to the interests of the target group.	Low response rate in case of mailing with a low level of adjustment of the subject of research to the interests of the target group. The risk that e-mails may be treated as spam.
	The possibility to use big databases and as a result achieve higher representative value for the whole population of Internet users.	Large share of fully anonymous entries, which limits the activities in the area of quality control.
		Lack of control over the mailing process and the quality of database.
	Sending a reminder is possible, but is associated with an additional cost.	
Own e-mailing (using own address databases)	High response rate.	Usually small number of entries in the database, as a result the representative value is limited to the target groups of the research.
	High representative value in case of surveying the needs/satisfaction of clients/employees.	
	Low cost.	
	The opportunity to achieve additional marketing effects.	
Advertising in the Internet (banners, pop-ups, sponsored articles, social networks, message boards, etc.)	The opportunity to reach even „niche“ target groups characterized by high level of specialization. Reaching them using traditional methods would be very expensive.	Low response rate caused by both low CTR and a high level of resignation.
	The opportunity to achieve additional marketing effects.	High costs of attracting respondents.
		Control over entering a questionnaire only by means of filtering questions included in the questionnaire.
	It has a positive impact on the willingness to participate in a survey and lowers the rate of resignation.	A website itself cannot be regarded as a promotional action – it is necessary to take actions which result in attracting potential respondents from the target group to the website.
Website dedicated to a survey.	Containing additional content (eg. reports from previous editions) the website may place high in rankings of search engines, which in the long term means lower cost of attracting respondents in case of continuous research.	In course of continuous research, in which the respondent gains access to the questionnaire through internet search engines – representative value limited only to people particularly interested in the surveyed subject.
	Allows carrying out research of continuous character.	Control over entry to a questionnaire only by means of filtering questions.
	Enabling access to gifts also after completion of a survey.	
	The possibility to achieve additional marketing effects.	
Sponsored links	In case of attractive gifts – high response rate.	Varied approach of Internet users to sponsored links.
	Fast and flexible implementation.	High cost.
		Representative value limited only to groups particularly interested in the surveyed subject.
Telemarketing	High response rate in case of some target groups who have access to the Internet, but do not use it in a continuous way (eg. doctors, many owners of micro-companies, mainly manufacturing companies, middle-level management of companies carrying out their work outside the company's seat and many others).	Society's growing aversion to telemarketing.
	In case of complicated, longer questionnaires, where additional explanations are required and research carried out using the CATI method is impossible due to the characteristics of questions.	High costs in case of research representative for the society in general.
		In case of many target groups, limited access to up-to-date address databases or high costs of obtaining them.
Traditional mail	The opportunity for material gratification (eg. a book or a shopping voucher) as a „pre-paid“ gift – gratification awarded regardless of the respondent's decision on participation in the survey).	High costs of attracting respondents.
	The opportunity to reach people who use the Internet rarely, but a conditional gift may encourage them to fill out a survey (eg. a voucher valid together with an individual code displayed on the last screen of a questionnaire). As a result, the opportunity to achieve higher representative value for the whole society.	In case of many target groups, limited access to current address databases or high cost of obtaining such databases.

*17 Response rate is the quotient of the number of filled out questionnaires to the number of people invited to a survey and takes into consideration both the efficiency of promotional action and the scale of resignation from participation in a survey. It is usually the effect of high CTR and low scale of resignation from filling out a questionnaire. The CTR (click through rate – proportion of clicks to the number of displays) means the quotient of the number of clicks on a link to a survey to the number of displays of an advertisement with a link to the survey and/or sent invitations to the survey. It is necessary to remember that the effect of an invitation will vary depending on the used medium and the attractiveness of the promotional message – as a result, between particular methods of reaching respondents there will be significant differences in the scale of resignation from filling out a survey (it is because some people will click on a link to the questionnaire on impulse caused by advertising contents and not because they want to participate in a particular survey).*

**Picture 6. Pop-up inviting to participate in a survey of the furniture market**

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