Crowdsourcing in Marketing Research: Problems and Prospects

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Abstract. Nowadays, in the marketing sphere and in modern sociological research, the method of crowdsourcing is widely used. The article reveals the essence and gives a brief overview of this method formation and describes the areas of its use. The article describes a set of basic concepts, assumptions and practices that make up the theoretical basis of research by crowdsourcing. In particular, the sequence of stages in the crowdsourcing project implementation is shown. The behavioral aspects of the participants based on the model "motive-incentive-action-behavior" are considered. The potential of this method for the development of the marketing sphere is presented. The authors analyze several cases of successful crowdsourcing application in social practice. The authors get reliable information about the status, nature, trends, prospects and development of project activities using this method. The result of the research is obtained by crowdsourcing method. The specificity of the structure is revealed and recommendations for this method application in practice are given.

1. Introduction

The term "crowdsourcing" appeared and became widely used recently. Today it becomes clear that the processes and phenomena behind this word play an increasingly important role in the life of modern society. This concept refers to the organized work for a large group of people on some socially significant problem. It includes a variety of areas of human activity, where crowdsourcing can be used.

The fact is that the basic prerequisite for the emergence of crowdsourcing was the development of the Internet and digital technologies. There are examples of using this tool to solve socially significant problems long before the digital era. Thus, in 1714, the British government announced a competition for the best method of accurate determination of the sea longitude. This method of solving the scientific problem was significantly different from the traditional one. The authorities offered to participate in solving this problem to everyone instead of funding the study of this issue by relevant experts,. In 1849 a network of 150 volunteers was established by the United States as part of the Smithsonian Institute's meteorological project. The main purpose of which was to monitor the weather. Joseph Henry, the first secretary of the Smithsonian Institute, used the telegraph to obtain data from volunteers. After collecting the data, he created a weather map that allowed daily information to reach a wide audience. The volunteers sent data about Wisconsin tornado by the telegraph immediately to the Smithsonian Institute if they noticed it passing. This project was considered to be the basis for the National meteorological service establishment. During the decade, the project recruited more than 600 volunteers and spreaded to Canada, Mexico, Latin America and the Caribbean [12].

One of the earliest examples of crowdsourcing was cited by the famous ancient Greek scientist Herodotus in his research "History". He described the situation when in ancient Babylon sick people were brought to the central market. The passers-by shared knowledge about how to overcome a particular disease. People who came for shopping asked the sufferers about their disease. They gave advice to the patient and explained "how they themselves were healed from such a disease or saw the healing of others," Herodotus wrote [2]. Such customs existed for a long time in the East.

Today the most famous and large-scale crowdsourcing project is Wikipedia. It contains about 50 million articles written by volunteers around the world. The Russian-language segment of the global Internet encyclopedia contains over 1.5 million articles.

Crowdsourcing has become a truly effective tool and social technology because of the information technologies development. Only the creation of conditions providing the population to the modern communication access allowe people to unite for joint activities. The term "crowdsourcing" appeared in 2006 in the magazine "Wired", in Jeff Howe article "The Rise of Crowdsourcing" [20]. The author suggested that the necessary work is done by unpaid or underpaid professionals and amateurs. They spend their time creating content, solving problems or even conducting scientific research. Since that time, the term has evolved and received many definitions. S. King characterizes crowdsourcing as "an appeal to the collective public mind to solve urgent problems" [17]. The key features of crowdsourcing are voluntariness and remote participation. The activity can be of different complexity and content, but it should be mutually beneficial for the organizer and participants [15].

The discussion of the crowdsourcing ideas started earlier than the invention of the term itself. The book «The wisdom of the crowd» by American journalist James Surowiecky was a landmark work. It was released in 2004. One of the key theses of the author was that in the right conditions the search for a solution to any problem based on the combined knowledge of many people. It can be a more effective method than the use of knowledge and experience some of them, even experienced and highly educated [10].

In Russia, crowdsourcing in the economy and entrepreneurship spheres has not developed due to the administrative and planning system existence for a long period of time. State ownership of fixed assets still determines the appearance of the domestic economy which was typical for Soviet Russia.

The socio-economic effect that this institution is able to produce is also lost with the entrepreneurship underdevelopment. The method of crowdsourcing is actively practiced in the private sector of the economy. This is an effective and rational use of intellectual resources, the introduction of innovations in marketing and sociological research, the diversification of the local economy . It also improves the quality of goods and services by competition, levels the standard of the population living through the redistribution of resources etc. In this regard, the relevance of the problems associated with the development of small and medium-sized businesses has not decreased over the past two decades. Today, the Russian economy is affected by the crisis caused by the sanctions policy of some countries. There is the decline in energy prices, the export of which traditionally forms almost half of our country budget. In these conditions, the entrepreneurs' problems are most clearly manifested.

Modern domestic researchers note significant regional differences in the structure and nature of entrepreneurship in the private sector. It is better shown in large cities with developed infrastructure and large markets. The situation is getting worse far from them. A separate research interest is the entrepreneurship of remote Russian regions. It has a territorial orientation and makes its activities based primarily on the needs of the local market, the volume and structure of local demand due to geographical isolation. The research of small and medium-sized businesses in a remote region can be useful in terms for assessing the current state of business in general. The center-periphery system allows us to reach a higher level of generalization of business problems in Russia with the dialectical method.

2. Actuality

Today, crowdsourcing technology is increasingly used as a full-fledged research method. It is actively used by Russian authorities.

The online platform for public discussion of the Federal law "About education" acted as a pilot crowdsourcing project in Russian lawmaking. The open network community optimized this normative act. It included experts from the education sphere: teachers, administrators, methodologists, parents and representatives of other interested spheres, for example, lawyers and state employee. Within the framework of this project, members of the community carried out an examination and evaluated the proposed draft law. They commented on the main provisions of the normative act, offered their ideas and formulations of individual points for its improvement. Another example is the draft Federal law "About the police". During the operation of the network site about 21 thousand comments were received from August 7 to September 15, 2010. The site was visited by more than 1.5 million people. The draft law was submitted to the State Duma on October 27, 2010, signed by the President of the Russian Federation on February 7, 2011 and came into force on March 1, 2011. [4]

There are a number of permanent crowdsourcing platforms that perform the most important functions in solving social and political problems today. Thus, the crowdsourcing platform of the Moscow government is a project that allows to improve the life quality and improve the urban environment using the ordinary citizens' ideas. The Moscow government forms and publishes a list of problems and tasks, the ideas for solving by the citizens on the platform's website. Information support is provided through the official websites, social network of the project and the government, as well as through the media. The platform is working with the citizens' proposals on the burning topic and the most effective experts' selection. The ideas selected by the experts are discussed and corrected by the users. Then users vote for the ideas they support. The ideas that received the most support from the project participants are transmitted to the competent staff of the relevant departments. Then they are considered in detail and implemented by the city.

From 2014 to the present time, 16 projects have been implemented by the platform users' efforts and the city government. There are "Moscow Environmental strategy", "Moscow libraries", "Children's clinics", as well as the crowdsourcing platform of the Moscow government itself. During the projects more than 90920 ideas were submitted and more than 2700 ideas were selected by experts for further development. In total, 143787 residents are involved in the projects [8]. Similarly, in the Belgorod region there is a portal "People's expertise" [6]. During the crowdsourcing projects a lot of proposals for regional tasks and problems were collected from active and caring people in Primorye, Arkhangelsk region and Yaroslavl.

The agency of marketing communications E-generator is an example of using the research potential in crowdsourcing in the commercial sphere[7]. The main specialization of the corresponding portal is the creative advertising development. Today there are more than 40,000 authors in this agency. They participate in the work with clients' orders. Customers can choose the best option of cooperation. Tere are the generation of ideas, ordering the concept of an advertising campaign, the brand creation, the production of video or graphic design. Editing is the first phase of ideas' processing, as well as the feedback form of the editor and the author. Communication and interaction with the editors and other site users are provided by the system of e-mail notifications. The selection of ideas is a result of editing. They correspond to the creative task.

Crowdsourcing is developed among professional researchers of public opinion. The founder and the head of the "Public opinion" Foundation (POF) A. A. Oslon pays attention to this method of research. He popularizes it among his colleagues. He calls crowdsourcing a worldview because it is possible to involve complete strangers to solve some problems [5]. According to A. A. Oslon sociology studies the statistics of stereotypes and crowd projects allow us to create ideas, solve various problems not only in the social sciences or marketing, but also at the whole country level. In 2014, the director of POF held a course of lectures entitled "Active sociology on the basis of crowdsourcing" [13].

3. Research methodolodgy

The purpose of our research is to analyze the subjects' activities. The research potential of crowdsourcing is implemented in the commercial sphere and in the field of public opinion research. It

is used to obtain reliable and objective information about the state, nature, trends, prospects and development of this research method (crowdsourcing) as an effective tool for the implementation of marketing and sociological research. The study uses various methods of both theoretically- analytical and practical (experimental) plan.

The theoretical analysis is used to systematize the basic concepts, basic provisions and social practices that form the research basis by crowdsourcing. According to the results of the researched material, the sequence of stages in the crowdsourcing project implementation is described in details description. The behavioral aspects of the participants based on the model "motive-incentive-action-behavior" are revealed. The potential of the crowdsourcing method for the development of the marketing sphere is found.

The authors present a descriptive analysis and produce a detailed analysis of several case studies with successful use of crowdsourcing in social practice. It is made with the purpose of systematization, generalization and algorithms.

The empirical research is carried out by the outsourcing method in compliance with all its stages. As a result the authors are able to obtain reliable information about the status, nature, trends, prospects and development of project activities using this method. The strategic goal of the research is to identify the specifics of the structure and develop recommendations for this method application in practice.

4. Research result

The sequence of actions in the crowdsourcing project can be represented in several stages:

1.Formulation of the purpose and objectives of the study. The implementation of the crowdsourcing method should begin with the goal setting as in any research. It should be clearly formulated, reflecting the needs of the particular research. It should be measurable.The study will be successful due to the goal that meets these three criteria. Research tasks should help to achieve the goal. They are the intermediate link between the goal and the research tools. In fact, the problems are the tasks that will be offered to the participants of the crowdsourcing project. Their formulation should be made with great care.

2. The choice of the audience. After setting goals and formulating tasks, you need to determine the audience. This audience will allow the goal to be achieved. Participants in crowdsourcing represent a social community that is still poorly understood. Domestic scientists have identified the following features of this audience: low level of solidarity, blurred boundaries of the community, volatility and high diversity of the staff [11].

The researcher should have a clear idea of the target audience, as the correct selection of the group affects the outcome of the work. People involved in crowdsourcing should not be indifferent to the discussed problems/solutions/products. The simple example is the book of complaints and suggestions. It is created to collect useful advice that will be implemented later. Here, comments and suggestions come directly from the target audience of the institution where the book is located.

3. Development and implementation of the engagement mechanism. A good understanding of the target audience helps the researcher to develop an effective mechanism for involving participants in their project. The more people with similar motivation he can find, the more individuals will eventually join the research. It is the most important stage in crowdsourcing [16]. The current mechanism of involvement can be developed by predicting the individual behavior. It depends on his own motivation, as well as internal and external motivations.

4. The choice of a technical platform for the project is carried out after the researcher has identified the target audience and has developed a mechanism for its involvement. Communication and exchange of labor results for a certain reward take place on this platform. The criteria for choosing a crowdsourcing platform are: the availability of resources for the target audience, the ability to integrate the mechanism of involvement that supports long-term participation and the ability to distribute material rewards at the end of the project. The researcher can create his own platform for the implementation of the project on the the website basis, social network or any forum.

5. Ensuring data collection in accordance with quality standards. In order to obtain data that meet the goals and objectives of crowdsourcing research, it is necessary to have the appropriate quality of incoming data. To this goal, it is necessary to standardize the data collection tools and to develop requirements for the information provided. It should be given to the project participants. In some cases, it is possible to rely on generally accepted standards adopted in sociological and marketing research. It is possible to extrapolat them from other methods to the method of crowdsourcing. For example, the standards ESOMAR (European Society for Opinion and Marketing Research) can be used.

Special attention should be paid to the analysis of the participants behavioral aspects in crowdsourcing projects based on the model "motive- incentive-action-behavior" (in the original MIAB- Motive-Incentive-Activation-Behavior), proposed by L. Rosenstiel [19]. Understanding how to awake and affect the motivation of the individual through internal and external incentives is extremely important in the development of the research program in which crowdsourcing should be used. The components of motivation and stimulation reflect the fundamental mechanisms of potential participants' involvement in crowdsourcing (Fig. 1).
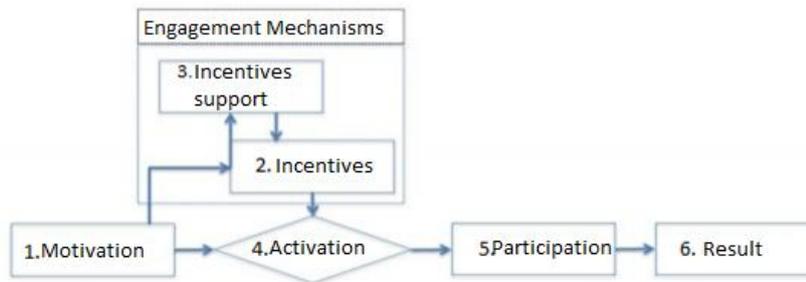
Figure 1. Schematic representation of MIAB model.

Each component of this model should be considered to understand its principle.

"Motive" (Motive) and "incentive" (Incentive) should be considered in conjunction. The term "motivation" in the Oxford English dictionary is defined as the reasons for the actions and behavior of a person; "incentive" is that motivates or promotes the commission of certain actions by a person.

Followers of the self-determination theory distinguish two types of motivation that affect human behavior. Intrinsic motivation defines the behavior that is associated with self-realization or obtaining pleasure. External motivation, on the contrary, is determined by external incentives. For example it can be the amount of earnings or public recognition [14].

External motivation activators can be divided into two classes: direct remuneration and social motives. Money and other material incentives are examples of direct rewards. Social motives imply positive reaction from significant people – friends, partners, project participants. An individual is more motivated to participate in a competition if members of his or her social environment consider a good result as a significant one.

Both foreign and Russian authors study the participate's motivation in crowdsourcing projects. Analysis of the topic publications suggests that the list of motives is difficult to imagine. The people involved in the same activity can be motivated by completely different reasons. That is why the organizers of any crowdsourcing project should think about what can attract potential participants and how to get the maximum efficiency of them.

Bakhtin A.V. offers a list of measures that may regulate the participants' motivation in the crowdsourcing project. He has treated crowdsourcing as a new form of interaction within the network community. He points to the public importance and value of the project, the need to organize activities by dividing it into a set of small tasks, the creation of the mechanism to identify leaders and improve their internal status, the importance of supervising the project by experts [1].

"Action" (Activation) refers to the individual's decision to initiate his or her behavior in a certain way. Here it is important to understand how long the individual will maintain this line of behavior. And it is necessary to understand how long he will make efforts to achieve a specific goal. Thus, an important factor is the creation of conditions for bringing a potential project participant to real action when planning a research by crowdsourcing. For example, participants can draw inspiration, find necessary information and get the access to expert knowledge. It can facilitate inclusion in the action. Attaching mentors to participants, creating an open community to share knowledge and experience is a good alternative to expert knowledge.

The term "Behavior" (Behavior) is defined as a set of human actions in the Oxford English dictionary. In the context of crowdsourcing some behaviors are considered as desirable. They are the original content creating, providing assistance, working together with other participants and other actions necessary to solve a specific problem.

Summarizing the above, we note that the understanding the functioning of each MIAB model's element can help the researcher to avoid many difficulties. These difficulties can be associated with the involvement of the participants into the research program at the stage of development. Moreover, this model allows to diagnose the causes of the occurrence and find a relevant solution of the problem.

Below there are examples of real crowdsourcing projects. They allow to demonstrate the mechanisms of the participants' involvement in the project.

Example 1: RTI 2012 research competition. In 2012, a nonprofit research organization "RTI International" planned to conduct an omnibus survey. It was decided to conduct an experiment and to involve external specialists in the development of the questionnaire at the stage of research tools development. For this purpose RTI 2012 research competition was announced.

The task of the participants was to create questions' formulations for future research. The invitation to participate in this project was extended to the representatives of the research community. Several incentives appealing to external motivation were used for potential participants involving. First, the winners were promised a database with the participants' answers and the right to publish scientific work on these materials. Secondly, the judges of the competition were well-known experts and young authors had the opportunity to demonstrate their work to recognized leaders of their field.

Specially for the competition, RTI has built a platform and used a private blog for the applications' processing and news publication about the competition. The structure and criteria for the competition applications were developed in order to unify and give the objective assessment of the received works by experts. The competition work included a two-page research program and a questionnaire with no more than 10 questions.

A significant number of participants responded to the competition. Within 23 days RTI received 76 applications. The subject matter of the works was very wide: from new products containing tobacco to the astrology influence on the search of friends. Participants of the competition were both bachelor students and deans of faculties from famous universities. As a result, the organizers received good material for creating an omnibus survey questionnaire.

The MIAB model allows us to understand the reasons for the successful implementation of the described project. First, the target audience was well chosen. Representatives of the professional community is the most interested group of people with the necessary knowledge and skills to perform the task. Secondly, the system of motivation and stimulation was correctly chosen. It allowed not only to collect the opinions of participants regarding any problem but also to force them to make significant efforts to prepare the competition work.

Example 2: recruiting participants through social networks. In practice, there may be difficulties especially at the stage of recruiting project participants during the implementation of crowdsourcing. M. Kiting and R. Furberg found that the MIAB model can be useful for diagnosing the causes of problems during the research. The case described by them occurred during the testing of various methods for recruiting crowdsourcing participants for data collection. The researchers tried to understand whether it is possible to use social networks as a tool for recruiting respondents for a large

number of cognitive interviews. Targeted advertising was used for this purpose. It was displayed for Facebook users, whose profiles included listening to music among their favorite activities.

An attempt to engage the audience was made by appealing to their external motives. A $5 gift card was offered as a reward. It could be used to purchase music content. The recruiting mechanism was built on follows points. Targeted advertising led potential project participants to a special platform.Then they were asked to fill in a screening questionnaire, the results of which were selected interviewers.

It was assumed that the material reward in $5 card will be a suitable incentive that can activate the selected target audience and cause them to participate into the project. However, it turned out that it is not enough. The researchers tried to apply a different approach. The next target audience was a group of Facebook users who are members of the American red cross network community. As an incentive to participate into the study there was a donation to the American red cross in the amount of $5. This time it was for assistance in collecting cognitive interviews. It was assumed that the basis for the response in this case would be altruistic motivation of people (i.e. internal motives). This approach was more successful. As a result, the organizers of the experiment gathered users of the social network for a large number of cognitive interviews.

Example 3. Using the Amazon Mechanical Turk crowdsourcing platform. One of the key advantages of crowdsourcing is the ability to collect large amounts of data quickly and relatively cheaply by the special platforms using. Here is an example of studying the demand for tobacco snus. In 2012, RTI conducted a study of Chicago retailers. The objective of the study was to collect data on tobacco snus from local retailers. There was a list of retailers who needed to call and find out whether their range of products studied and what his consumer characteristics.

To do this, the organizers of the project used the Amazon Mechanical Turk service. They found performers specializing in micro-tasks. To ensure the involvement of the audience a reward of $ 0.75 for each call to the retailer was offered. Users of the platform specialized in performing tasks published on the platform and their main motivation was earnings [3]. Compared to other tasks presented on the platform, the research team offered a fairly generous reward to the performers. Therefore the users transition to actions was fast.

At the same time, some performers did not do what was expected of them. They included data on other tobacco products in their questionnaires, such as chewing tobacco. The organizers added special explanations to avoid unnecessary information. The problem was quickly solved. It proves the applicability of the MIAB model to identify inaccuracies and their rapid correction in the researchs implementation by crowdsourcing.

5. Summary

In conclusion, we note that crowdsourcing has the potential to become a method of research that will allow scientists to solve a variety of problems. However, in the absence of theoretical and methodological foundations there is a high probability of errors.

Before starting the project with the use of crowdsourcing, it is recommended to consider and accurately determine its stages.It is importent to build the logic of the study. At the planning stage of the engagement mechanism, it is advisable to refer to the MIAB model. Incentives should appeal to the motives of the audience. Once there is activity of the project participants, the task of the researcher is to maintain it and send it into the right direction. It is necessary to monitor their behavior. The examples in this article show that sometimes tasks need to be adjusted to ensure that data relevant to the goal is collected.

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