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Crowdsourcing platforms as virtual organizations Implications for contributors

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ABSTRACT

The article is a theoretical reflection on how crowdsourcing platforms work as virtual organizations, and on the resulting implications for contributors. The first part focuses on the idea of a virtual organization. The next part discusses the essence of crowdsourcing platforms as virtual organizations which extract distributed resources from a crowd of contributors. The last part of the article displays the consequences of the way the crowdsourcing platforms work and the development perspective for the contributors.

Introduction

The development of information technologies, including the Internet, has marked the emergence of both new areas and the dissemination of existing concepts. As a concept, crowdsourcing has been known and used for centuries, however, it has been a challenge for principals to reach out to the resources remaining on the crowd side, mainly because of communication constraints. For over a decade, interest in crowdsourcing has grown and crowdsourcing platforms have become an example of an organization which efficiently engages a significant number of people who are motivated to work together. The widespread use of information technologies has also influenced the development of new forms of organization known as virtual. The combination of crowdsourcing concepts and virtual organizations is reflected in the way crowdsourcing platforms function.

The purpose of the article is to display the consequences arising for contributors from the virtual form of organization of crowdsourcing platforms.

In this sense, a contributor is a motivated member of the crowd who contributes resources to the crowdsourcing process.

The article was prepared on the basis of a literature study as well as on the basis of netnographic research carried out on crowdsourcing platforms.

1. The essence of virtual organizations

Among the available definitions of virtual organizations, there are two basic groups representing different approaches. Saabeel, Verduijn, Hagdorn and Kumar referred to these approaches as process and structural [1].

A much more common approach to defining a virtual organization in the literature is a structural approach, focusing on the components of the virtual organization, their properties and the relations between them [1]. It corresponds to the definition of an organization in the material and attribute sense, treated as an intentional system, i.e. a whole consisting of mutually related elements, remaining in various kinds of interactions with the environment [2]. Burnt, Marshall and Barnett claim that a virtual organization is a specific organizational structure based on various forms of cooperation, aiming to jointly use competences, knowledge and other resources to create a specific good or to take advantage of an emerging market opportunity. Information technology is the key element of such an organization. Sparrow and Daniells emphasize that the virtual organization functions without an open (visible) structure, but the elimination of the traditional hierarchy does not deprive the organization of coordination and control tools. Its borders are subject to constant shifts [2]. The result is an "organization without walls", one that functions as a "collaborative human network", regardless of its location or organizational affiliation [1].

The process approach, focusing on behaviors and activities, identifies the organization in the functional sense (organizing) as a specific coordination mechanism, area of activity, instrument or *approach* to the management of the organization [1]. According to Mowshowitz, the essence of a virtual organization is the so-called meta-management of intentionally oriented activities in an independent manner in terms of the means of their implementation. Meta-management means managing a virtually organized activity. Such a virtually organized activity consists of a set of requirements, entities which can meet them and procedures for selecting appropriate entities and the resources and competences at their disposal to meet the requirements related to the purpose of the activity. Requirements determine the configuration of a virtual organization – in case of a change in requirements, the composition of the organization is transformed (*the switching principle*) [1].

Referring to the available literature and to the above mentioned definitions, the following important features of a virtual organization can be pointed out [1]:

- cooperation between independent entities,
- focus on key competences,
- fuzzy identity (permeability of organizational boundaries),
- trust in relations between partners,
- the use of information technology.

It should also be noted that participants of a virtual organization usually join it voluntarily, often guided by their internal motivation. Such participation affects the speed, efficiency and effectiveness of the entire organization.

Other features of a virtual organization, such as: lower operating costs, greater flexibility, better knowledge management generate products and services tailored to the changing needs of customers as well as create conditions for generating added value in the organization [3].

2. Crowdsourcing platforms as virtual organizations

As the literature points out, there are many definitions of crowdsourcing, but almost all of them focus on the essence of the crowd as a provider of distributed resources. A motivated crowd is a challenge for the modern enterprises [4]. J. Howe pointed that out in his work, claiming that crowdsourcing is an action of a company or institution consisting in selecting an activity which was previously performed by its own employees and commissioning it to an undefined (generally large) group of people in the form of an open inquiry [5]. A similar observation was made by Brabham, who defines crowdsourcing as a strategic model of engaging a motivated crowd to deliver solutions often of better quality than those implemented by employees of an organization [6]. In his research work, Brabham also draws attention to the typology of the tasks which a crowd can perform for contractors [7]:

- tasks related to the pursuit for solutions to empirical problems in various fields of science,
- creation, evaluation of creative ideas and designs,
- gathering, processing large amounts of information and creating new content.

The implementation of the above mentioned tasks takes place within a crowdsourcing concept, among others, by means of crowdsourcing platforms, the structure and organisation of which correspond to the virtual organizations described above. In result, crowdsourcing platforms emerge as new forms of organization which create favorable conditions for the activity of contributors, which in turn translates into the effectiveness of crowdsourcing activities.

For the purpose of achieving the aim of the article, the author used the previously presented definition of virtual organizations to illustrate how crowdsourcing platforms work.

In their structures, crowdsourcing platforms as virtual organizations have three important types of entities: contributors, principals, platform employees:

- contributors provide expected resources (knowledge, creativity, free time, information, hardware, etc.),
- the principals identify the task to be performed for the contributors,
- platform employees are responsible for organizational and coordination activities.

An important distinguishing feature of the crowdsourcing platforms is the fact that their activities are based on a crowd of people, whose contributors are selected due to their competences necessary to perform the tasks set by the clients [8]. In the case of tasks requiring specific expertise, the role of contributors is played by persons with higher education in various fields of science. An example is the InnoCentive platform, where 65% of solvers have a PhD in miscellaneous sciences [7]. Tasks requiring design skills, the sense of aesthetics, are most often contributed by people who have graphic design skills. In the case of the Threadless platform, eYcka, 99designe, whose core business is designing various types of graphic products (logos, advertisements, print patterns, etc.), the contributors are creative people, enthusiasts who are not professionally involved in graphic design. For crowdsourcing platforms based on various small tasks, all participants with the required competences can contribute. Hence the Clickworkers platform mainly employs people with language skills in translation and editing. For TestBirds, various activities are carried out by people with knowledge of the functioning of specific products and services necessary to evaluate and verify the tested solutions. According to the above, the crowd does not in fact comprise random people. On

the contrary, contributors often include key users (lead users), who undertake tasks due to internal motivation [9]. According to research carried out among various contributors, lead motivators include [6]:

- – developing creative skills,
- – the need to verify their competence when solving difficult problems,
- – instrumental role,
- – participation in communities with similar preferences,
- – sharing with others,
- – financial gratification.

The nature of the motivator is strongly linked to the type of task the contributor undertakes. Internal motivators are most often associated with the performance of complex tasks requiring specialist knowledge or creative thinking. External motivators, such as financial gratification, mobilize crowd members performing tasks which are recognized as repetitive and relatively simple [8]. Contributors on crowdsourcing platforms come from different regions of the world and their number much greater than the number of employees in a traditional company: 1.5 million designers for 99design, 250 thousand, testers (TestBirds), 380 thousand solvers (InnoCentive). Inside a given crowdsourcing platform, the contributors form a community, and affiliation is an important motivation factor for potential contributors.

The second group of entities present on crowdsourcing platforms are the principals. Large and small enterprises from various industries, organizations, local government units. Local and global actors report the following requisitions from crowds: obtaining creative ideas, testing new solutions, graphic design, information provision, text development, translations, etc. Contractors expect effectiveness and efficiency in the performance of the commissioned task as well as lower costs of execution from cooperation with contributors on crowdsourcing platforms. The low price argument is particularly important in the case of crowdsourcing platforms carrying out: micro searches, solution tests and offering design services.

In accordance with the above, it can be stated that, in structural terms, crowdsourcing platforms meet the definition of virtual organizations because:

- – they have flat and open structures,
- – contributors can join and leave the organization at any time,
- – membership in the organization is determined by the contributor on the basis of his or her competences,
- – relations between entities are defined by affiliation in a given group and are rather weak between groups,
- – employees of crowdsourcing platforms act as coordinators, focus on creating convenient working conditions for contributors.

The structure of a typical crowdsourcing platform presented above does not fully reflect its character as an efficient virtual organization. It is therefore necessary to present principles and modus operandi as part of the process of organizing the work of the actors concerned. Therefore, the following organizational and coordination processes can be distinguished:

- – registration, organization of groups of contributors,
- – specifying and designing tasks based on the expectations of the principals,

 – defining the rules for motivating and rewarding contributors,

 – defining the rules and tools necessary to perform the tasks assigned,

 – assigning a task to contributors,

 – verifying completed tasks, selection and final choice.

The way of organizing work on crowdsourcing platforms depends primarily on the nature of the platform's activity and the number and type of its contributors. Past observations have pointed to some typical organizational activities describing the operation of crowdsourcing platforms.

Both on the TestBirds and Clikworkers platforms, an important element of organizational activities is engaging as many acquired contributors as possible to implement micro-tasks. For both platform types, the following have become increasingly important:

 – efficient registration of a large number of contributors,

 – assignment of tasks on the basis of competences defined by the contributors,

 – determination of the rules of task execution, taking into account the time capabilities shown by the contributor,

 – determination of the principles of financial gratuities and methods of settlement,

 – efficient, system-based verification of the tasks performed by the contributor and precise transmission of relevant information related to the method of correcting emerging errors,

 – additional motivation of the contributors by rewarding tasks completed correctly and efficiently.

In the case of both TestBirds and Clickworkers, efficiency and speed have become very important, which in practice stands for cooperation with a large group of contributors. In addition, the proper determination of tasks and verification of completed work has an impact on the commitment and loyalty of the contributors.

In the case of the InnoCentive crowdsourcing platform, whose contributors provide unique solutions from various fields of science on a global scale, the following essential aspects have been identified:

 – precise formulation of the essence of a pursued problem,

 – formulation of competition rules for potential contributors,

 – determination of the value of gratuities for the winning solution,

 – verification of the solutions provided and selection of the winner,

 – strengthening cooperation and building a community of contributors.

Contrary to the aforementioned platforms responsible for micro tasks, InnoCentive focuses on creating convenient working conditions for competing individual specialists belonging to the community of contributors called "solvers". A crowdsourcing platform working as in the example should focus on strengthening the community of contributors because the quality of its members depends on the effectiveness of the solutions provided.

The third group of crowdsourcing platforms are organizations which acquire creative thinking resources related to graphic design from their contributors. The Thraedless platform obtains graphics in the form of clothing print designs. The eYecka and 99design platforms play the

role of advertising agencies, which engage the contributors to design graphics used in advertising and image activities. The process of organizing and coordinating activities is similar to that of TestBirds and Clickworkers. However, there are some distinguishing features. The Threadless platform involves the contributors who belong to the community of engineers for the process of verification and evaluation of delivered ideas. This type of activity strengthens the position of the community on the platform and makes it attractive for new members. The eYecka and 99design platforms employing designers from all over the world, pay special attention to the procedures of communication and legal protection of the work carried out by the contributors. eYecka also provides advisory support to its designers, and 99design builds the value of its distributors by presenting their work and promoting their achievements. In both cases, information technology to facilitate contact between the actors involved has become increasingly important.

As can be seen from the examples described above, the range of organizational and coordination work depends primarily on the type of tasks performed by crowdsourcing platforms. In the event that a contributor undertakes a small job for a small salary, the platforms carry out organizational activities aimed at supporting the efficiency and accuracy of their work. With regard to tasks which require specialist knowledge or creativity, the organizational and coordination process is aimed at supporting and strengthening creative thinking. It should be noted that IT technology plays an important role in the creation of conditions for the functioning of platforms as virtual organizations, as it enables direct involvement of business partners in the implementation of tasks.

3. Important implications for the contributors involved in crowdsourcing platforms

Contributors are the key entity of crowdsourcing platforms, as it is thanks to their involvement that platforms can perform tasks related to the selected area of resource acquisition. The participation of contributors in crowdsourcing activities is connected with the described consequences.

The use of information technology enables distributors located in different regions of the world to work together on both regular micro-work and tasks requiring occasional commitment. Free access to a variety of tasks makes it possible for potential distributors, limited by their place of residence, to gain access to work, which provides opportunities for some to earn money, while being an interesting challenge for others.

Assigning tasks to contributors on crowdsourcing platforms on the basis of declared competencies significantly shortens the recruitment process. Above all, however, this kind of concept ensures that the acquired contributors are internally motivated and committed. They pursue their passions, develop interests, which has a positive impact on their attitude to work.

Acquisition of contributors on the basis of competences, including declared knowledge and skills, enables access to work for people who do not have formal education in a given field of study. This type of approach to entities in the structure of the organization makes it easier for talented people to complete tasks without formal limitations.

The gratification systems available on crowdsourcing platforms are a source of: additional earning opportunities (microworking), more serious income and testing their capabilities in

a given field (solving unique problems) or meeting non-material needs related to the accumulation of experience, creating a portfolio (design).

Cooperation between entities on crowdsourcing platforms, creating a community of "solvers" and "designers" strengthens relations and significantly supports the process of acquiring new contributors. From the organizational level, this means that, without the special involvement of platform employees, the communities of contributors create an attractive work environment on their own.

Crowdsourcing platforms should be treated as organizations created for people who value independence, are guided in their choices by the purposefulness of action, and treat the links in the organization as a form of coexistence and not of formal dependence. Otherwise, the work carried out by contributors on crowdsourcing platforms may be perceived as a form of exploitation. This may be noticeable in the case of activities carried out in the form of a competition, where only the best projects win and other submitted projects do not receive payment. Low financial gratification for the completed tasks may appear detrimental to the contributors. However, if we treat crowdsourcing platforms as organizations operating on the basis of voluntary membership, bringing together entities that join the task guided by different motivations, in this approach, we are dealing primarily with a new form of cooperation between entities in the virtual space.

In accordance with the above, contributors appear to be a new group of entities performing the work previously outsourced to employees in the organization. However, the way in which they operate sets new conditions for cooperation. Contributors become both contractors of the task and co-creators of the identity of the organization.

Conclusions

Crowdsourcing platforms are an example of organizations, for which the Internet has created a friendly space for development. The implementation of the concept of crowdsourcing in virtual space has gained momentum in the last decade, acquiring dispersed resources in the crowd became both an idea for a new kind of business crowdsourcing platforms and a way to meet the needs of distributors at different levels of the hierarchy.

Crowdsourcing platforms as organizations without rigid structures, equipped with the latest technologies, enable access to work for an unlimited number of people. Crowdsourcing platforms gain a committed partner thanks to the motivation of their contributors to carry out their tasks. As organisations, they do not need to engage capital to create structures and procedures aimed at retaining employees. A steady supply of contributors requires crowdsourcing platforms to create favorable conditions for the performance of their tasks.

Crowdsourcing platforms have become an important intermediary in global markets. They may pose a threat to existing and traditional operators. As an intermediary, the platform provides its clients with services more efficiently and at more attractive prices. In this way, a new area is created in which crowdsourcing platforms will compete to acquire the best possible distributors, whose potential has still not been fully identified.

Conflict of interests

The author declared no conflict of interests.

Author contributions

The author contributed to the interpretation of results and writing of the paper. The author read and approved the final manuscript.

Ethical statement

The research complies with all national and international ethical requirements.

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Biographical note

Anna Szwajlik – PhD in Economics. The main areas of interest in which the author conducts her research work include marketing management, development and implementation of innovative products on the market, consumer behaviour, including in particular new trends. The result of the research projects is the implementation of several innovative products from the technological sector. The author's scientific achievements include chapters in non-serial publications mainly on marketing management, articles written in Polish and English relate mainly to the aspects of product innovation development in the market context, consumer behaviour and management efficiency from the marketing level.

Platformy crowdsourcingowe jako organizacje wirtualne
Implikacje dla kontrybutorów

STRESZCZENIE   Artykuł ma charakter teoretycznych rozważań na temat sposobu działania platform crowdsourcingowych jako organizacji wirtualnych i wynikających z tego faktu implikacji dla kontrybutorów. W pierwszej części została przedstawiona idea organizacji

wirtualnej. W kolejnej istoty działania platform crowdsourcingowych jako organizacji wirtualnych pozyskujących rozproszone zasoby z tłumu kontrybutorów. Ostatnia część artykułu dotyczy wykazania konsekwencji dla kontrybutorów ze sposobu działania platform crowdsourcingowych oraz perspektywa rozwoju.

SŁOWA KLUCZOWE   crowdsourcing, organizacje wirtualne