

CROWDSOURCING - A NEW PARADIGM OF ORGANISATIONAL LEARNING OF PUBLIC ORGANISATIONS

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ABSTRACT

Crowdsourcing is one of the new themes that has appeared in the last decade. It is perceived as an innovative method that can be used for problem solving, improving business processes, creating open innovations, building a competitive advantage, and increasing transparency and openness of the organisation. The importance of crowdsourcing for organisational learning is seen as one of the key themes in the latest literature in the field of crowdsourcing. This article is a response to the recommendations in the subject literature, which states that crowdsourcing in public organisations is a new and exciting research area. The aim of the article is to present a new paradigm that combines crowdsourcing levels with the levels of learning. This article presents a cross-sectional study of four Polish municipal offices that use four types of crowdsourcing, according to the division by J. Howe. Semi-structured interviews were conducted with the management personnel of those municipal offices. The research results show that crowdsourcing is a new and rapidly developing organisational learning paradigm.

Keywords: crowdsourcing, organisational learning, paradigm, organisational learning paradigm

INTRODUCTION

Crowdsourcing is one of the new themes that has appeared in the last decade. The importance of crowdsourcing for organisational learning is seen as one of the key themes in the latest literature in the field of crowdsourcing [14]. Crowdsourcing is no longer just a paradigm of online problem solving, open design, computer networks, knowledge management, and participation. However, in the context of public organisations crowdsourcing is perceived mainly as a way to generate information, co-produce services, create new solutions and public policies [11]. This means that public organisations, by means of using crowdsourcing, obtain information from citizens to improve public services and their shaping. The issue of organisational learning using crowdsourcing is overlooked. Various types of crowdsourcing have been identified in the literature [7]. Until now, scientists focused primarily on collective intelligence [2] and crowd voting [14]. However, illustrative cases of crowdsourcing suggest that the use of different types of crowdsourcing may be useful for improving innovation. Interestingly, the literature suggests a positive relationship between crowdsourcing and organisational learning, but there is no empirical evidence in

the literature, in particular in the context of the various types of crowdsourcing used by public organisations. As part of previous research, it was verified how crowdsourcing is linked to organisational learning. However, these studies were conducted in mature and innovative organisations, and only one type of crowdsourcing was considered - the conclusions were generalized to all types of crowdsourcing [14]. That is why, the aim of our study is to present a new paradigm that combines crowdsourcing with organisational learning, including four types of crowdsourcing, according to the division by Howe: collective intelligence, crowd creation, crowd voting, and crowdfunding. Bearing in mind the above, four free-form interviews were conducted with the management staff of municipal offices that make use of each of the distinguished types of crowdsourcing. Secondary sources in the form of strategy analysis and reports posted on the websites of municipal offices complement the research. A review of the current state of knowledge on crowdsourcing suggests conducting future research in public organisations [2], especially in the municipal offices. We believe that our research will contribute to a better understanding of crowdsourcing in the context of organisational learning and it will allow us to postulate that crowdsourcing is a new and rapidly evolving organisational learning paradigm. The research is of an interpretive nature, which will allow us to look at the significance of the phenomena and understand the activities and relations taking place in crowdsourcing. It will also contribute to managerial practice because it will reveal the structure of crowdsourcing with a specification of its types, which may be a decision criterion for decision-makers deciding on its implementation.

THEORETICAL BACKGROUND

Crowdsourcing

Crowdsourcing, as defined by Howe [6], is the act of taking a job traditionally performed by a designated employee and outsourcing it to an undefined, generally large group of people in the form of an open call. Crowdsourcing is one of the most important factors affecting the time of launching a product and improving its quality. In addition, the previous literature on crowdsourcing focused mainly on the benefits of access to creativity, openness, and various solutions. Crowdsourcing has been proven to improve business processes, creating open innovations [2], building competitive advantage, creating innovation and organisational efficiency. It has also been mentioned that it contributes to organisational learning.

Crowdsourcing is the source of organisational learning also in public organisations. Its specificity is related to the characteristics of public organisations and the context of their operation. First of all, the public sector operates on the basis of a stakeholder model, which should help engage in crowdsourcing due to the participatory modus of activity. On the other hand, however, there are clear organisational, technological, social and cultural limitations stemming from the context of the functioning of this type of organisation [12]. Public organisations, in comparison with commercial organisations, often have a greater degree of

formalization and bureaucratization, as well as resistance to change, which may hinder the development of crowdsourcing. Also, the absorption of new IT technologies may be slower in competitiveness-neutral activities. The use of crowdsourcing for organisational learning is also shaped by the level of social capital and the dominant configurations of cultural values [9]. The low level of social capital limits the possibilities of using crowdsourcing. Similar significant dependencies can be found at the level of identity and organisational cultures.

Organisational learning – a 4I perspective

Organisational learning is a process in which organisations learn in a quickly changing environment. Organisational learning is therefore "the process of change in individual and shared thought and action, which is affected by and embedded in the institutions of the organisation" [5]. The multilevel concept of organisational learning by Crossan, Lane and White recognises them as a dynamic process in which changes in knowledge and behaviours occur and the results of earlier learning in individual actions are implemented, which means a flow of learning between all levels. Considering the purpose of this study, organisational learning will be perceived through the prism of the approach of Crossan and her colleagues. According to it, the learning process takes four forms that flow seamlessly into one another, i.e. intuition, interpretation, integration, and institutionalization. Intuition and interpretation occur on an individual level. These processes take place in the heads of individual organisational units and rely on modifying or generating individual knowledge based on individual experience and knowledge. At the team level, there are interactions between individual units. Through interpretation and integration, and more specifically joint decision-making, actions or conversations, are followed by common understanding, which allows new knowledge to emerge. At the organisational level, through institutionalization, the learning outcomes of individuals and the team are defined, consolidated and disseminated. The knowledge of individuals and the team is consolidated in processes, structures, strategies, systems and culture. They form a whole and are adapted to the requirements of the environment.

EMPIRICAL RESEARCH DESIGN

Case selection and characterisation

The selection of the research subject was carried out using the funnel method. First, the search for appropriate public organisations was narrowed down to the municipal offices. Previous research has concerned crowdsourcing in ministries, governments and government agencies, and healthcare. The aspect of municipal offices has been overlooked. The literature indicates that crowdsourcing should be included in city strategies and that it is helpful during spatial planning. Thus, cities are becoming the centres and engines for the development and improvement of the innovative economy. This determines reaching for modern technologies that enable residents to solve problems and create innovative solutions. Secondly, the choice of the municipal offices has been limited to those that make use crowdsourcing. Thirdly, during the selection of the study subjects, it was

considered that to present a complete picture of crowdsourcing, municipal offices that use one of the types of crowdsourcing, according to the division by Howe should be identified. Taking into account all of the above premises, the research was carried out in the following four selected municipal offices, which make use of crowdsourcing. In the further part of the article, the municipal offices examined will be referred to as cases 1 to 4 - to facilitate the discussion. The number of offices subject to detailed exploration meets the requirements for case studies.

Case 1. City of Lublin Municipal Office (an example of collective intelligence)

Lublin is a city with district rights located in the eastern part of Poland. "Lubelskie Dobre Pomysły" is a crowdsourcing platform that was initiated and implemented in 2014 at the City of Lublin Municipal Office. Its main goal is to reach the largest group of inhabitants of the Lublin Province, who want to participate in the life of the city and have a real impact on shaping its image and development directions.

Case 2. Capital City of Warsaw Municipal Office (an example of crowd creation)

Warsaw is a city located in the central-eastern part of the Mazovia Province. "Otwarta Warszawa" is a crowdsourcing internet platform that was implemented from 4 May 2014 to 31 July 2015 by the City of Warsaw Municipal Office. For this initiative, the then deputy director of the Social Communication Center, the unit responsible for "Otwarta Warszawa", received in 2014 the international award: "C4F Davos Awards (Communication for Future Davos Awards)" in the "Image of the Future" category.

Case 3. Municipal Office in Dąbrowa Górnicza (an example of crowd voting)

Dąbrowa Górnicza is a city with district rights located in southern Poland. Since 2013 the Municipal Office in Dąbrowa Górnicza implements crowdsourcing through the "NaprawmyTo.pl" platform. Thanks to the portal, residents can report defects or problems in the following categories: infrastructure, security, buildings, nature, and others. The people making the notifications can then follow the execution status of a given alert.

Case 4. City of Krakow Municipal Office (an example of crowdfunding)

Krakow is a city with district rights located in southern Poland. In 2017, the City Green Board, a municipal organisational unit of the City of Krakow Municipal Office, joined the students' project of the Jagiellonian University called "At the corner of Dekerta Street", which assumed the creation of a pocket park and butterfly garden on the corner of Dekerta and Wałowa streets. To this end, a fundraiser was launched through the crowdfunding platform PolakPotrafi.pl (<https://polakpotrafi.pl/projekt/na-rogu-dekerta>).

Data selection and measurement

Two research methods were used in the research: the interview method and the method for examining documents. Data triangulation allowed for ensuring an adequate level of reliability and reduce the level of inference errors and to achieve the level of saturation of the theory. As presented in the table, the research was based on primary and secondary data sources: a) free interviews with representatives of the municipal offices; b) studies and reports on crowdsourcing, websites of crowdsourcing initiatives, press articles dedicated to these initiatives and strategies of the municipal offices under study (table 1).

Table 1. Overview of data collected

Data sources	Case 1	Case 2	Case 3	Case 4
Primary data: They were used to grasp, understand the experiences of the offices studied in learning by using crowdsourcing	1 interview: R1: Secretary	3 interviews: R2: Vice-Mayor R3: Vice-Director R4: Chief Specialist	2 interviews: R5: Deputy Head R6: Chief Specialist	2 interviews: R7: Director R8: Manager
Secondary data: They constituted the basis for research construction	The office and crowdsourcing initiative websites, development strategy, 5 articles in the press	The office and crowdsourcing initiative websites, development strategy, 10 articles, 2 internal reports	The office and crowdsourcing initiative websites, development strategy, 5 articles	The office and crowdsourcing initiative websites, development strategy, 10 articles

Source: own elaboration.

The data collection process was carried out from January to April 2018. In general, eight free-form interviews were conducted during the research. The respondents participating in the research were representatives of the top management of the city office and persons coordinating the given crowdsourcing platform. All these people were involved in the crowdsourcing initiative in the municipal offices under examination. Interviews were carried out at the offices of cities and lasted from 60 to 120 minutes. With the consent of the interviewees, all interviews were recorded. Subsequently, they were transcribed.

Data analysis

The basis for data analysis is the interpretation approach. Its choice was the desire to discover and understand organisational learning using crowdsourcing from the perspective of key actors involved in the process. Such an approach requires comparability and detailed descriptions, which is consistent with the desire to understand experiences in the field of organisational learning using crowdsourcing. For this purpose, a narrative analysis was used, which is a systematic analysis of personal experiences and meanings that the active

participants of a given event built. Narrative analysis is an interpretive technique that focuses on stories and narratives where people talk about their experiences. Its purpose is not to check whether their experiences are real, but to try to answer the question of how and why they create a narrative.

ANALYSIS AND RESULTS

Case 1 – collective intelligence

In the municipal office that uses collective intelligence, the idea of using crowdsourcing resulted from the desire to try and experiment. In the interview, the respondent said: "In our activity we have participated in certain programs related to, for example, the examination of administration functions in general, the implementation of administrative processes by the municipality, and the creation of certain management models in these areas" (C1 R1). The above statement indicates that in the case of collective intelligence, intuition is associated with a desire to imitate and reach for new solutions tested and used by others. This goes in line with the conceptualization by Crossan et al. (1999), where intuition is the process of an earlier recognition of models. The next process, interpretation is a conscious explanation, expression and discussion of ideas and insights with other members of the organisation. We are talking about collective activities, dialogue, discussions, meetings or other means of communication. Common knowledge is the basis for joint action: "(...) this idea was created to show it to some extent and outside, to create areas in which not only office employees can be located, but also to use this social activity in in a sense, aggregate and try to use all the data that is there" (C1.R1). The basic feature of integration is the mutual understanding of members in a group [5]. It focuses on updating ideas through collective actions and common practices. Communication and cooperation are of key importance here. Communication not only allows learning, but also allows to retain what is the result of the learning process and pass on the knowledge thus obtained [5]: "Here, with over a dozen years of activity, we have worked out together in the office some reliable mechanisms of social participation, participative management, participation of inhabitants in specific activities, suggestions, and solutions. And we are trying to develop these models more and more, of course with a dose of humbleness, whether we take into account to find a formula and the form of reaching the largest group of people, because we also noticed at some point that a certain group of people participate in the consultative meetings, also a certain group of people responds to certain information and expectations of the local community" (C1.R1). Institutionalization, the last process in the 4I model, refers to embedding in organisational systems and procedures what has been worked out during learning. This allows the organisation to root knowledge, regulating its activities and using what the organisation has learnt so far: "(...) these tools were used to modify, monitor, develop or modify and change the procedures that are still alive, which are constantly adapted to the needs" (C1.R1).

Case 2 – crowd creation

Intuition as a process is most often triggered by external stimuli. It may be important to have the competence and personal experience of employees that will allow the implementation of new solutions. This means that the organisation should want and be able to redefine its current course of action, discover hidden problems, using its past and employees' competences. Which is consistent with the findings of Murray and Donegan [10], [13]. This gives an opportunity to reflect on the organisation's past, which is key to the way it will act in the future. Expanding knowledge about problems allows the interested parties to cover hidden problems and link them to previously unresolved issues. As part of intuition, language and creating cognitive maps are also important: "first of all, he made us realize how important conversation is and creating forums for conversations with the residents and their inclusion" (C2.R4). In the case of interpretation, crowd creation for the office is not "art for art's sake", but it is "an interesting mechanism for working on some processes of discussing a local plan, budget, or greenery" (C2.R2). The Office states that "the administration at every level is established to act for the residents and citizens. To act for them (...). Therefore, the administration of every level, aware of such a functioning of the human mind, should strive for the widest possible publicizing of information at the earliest possible stage of each project, trying to make the decision-making process as transparent as possible (...). Thanks to this, we will gain substantive knowledge reflecting real needs and real problems (www.konsultacje.um.warszawa.pl). As part of a crowdsourcing initiative, city offices included other entities to collaborate, among others the municipal office's auxiliary units, but also academic circles: There were voices that after implementing crowdsourcing, the willingness to collaborate increased: "establishing new quality contacts with employees from offices and municipal units on other, innovative, full of openness and special kindness and subsidiarity level compared to routine work. We now know who to call, for example, with a request for advice on new ideas and simply support the substantive work" (C2.R4). As it has already been mentioned, institutionalization takes place when new activities become part of the organisational routine and systems [5]. The surveyed office is of the opinion that crowdsourcing has not contributed to major changes in the municipal office and is rather the result of changes: "it's hard to say that something has changed dramatically through crowdsourcing. It can be said that the consequence of the fact that the city is changing, was that at some point we reached for crowdsourcing"(C2.R2).

Case 3 – crowd voting

In the third case, the desire to implement crowdsourcing resulted from the previous experience of the office connected with involving the residents in co-deciding and co-managing the city: "it practically started here in 2008, when the agreement was created named Together for the City (...). We wanted to involve the residents in long-term co-decision (...) the mayor had always wanted to listen, he wanted to talk to the inhabitants" (C3.R5). The units share intuition with others and engage in collective interpretation, which facilitates collective understanding. The case examined included broadly understood stakeholders: "(...) the basis was

to obtain information about problems occurring in public space. The next thing is expectations, we know what the residents want, what they care about. They will tell us what we should do. This does not mean that the residents get what they want. Thanks to that we have knowledge about security. People want to inform us about what is happening in the city" (C3.R6). In the studied case of the crowd voting, the basis for integration was understanding: "We wanted to develop certain rules. We developed a way of communicating with the residents and including them in matters that concern them. Together, we understood that it would not be easier for us to act according to common, clear and accepted principles" (C3.R5).

Case 4 - crowdfunding

For the office under study, the aim of the crowdfunding endeavour is, above all, commitment and to involve residents: "(...) because if we want, for example, good quality projects in the civic budget, we must show them projects from around the world that they did not hear as laymen and in Poland they have no way of seeing them, so that they could have such a nice project, for example a playground for adults submitted to the budget" (C4.R8). In addition, attention is paid to the encouragement and inclusion of the young generation to and in action and the use of its potential and willingness to act: "The younger generation is much more aware of this in terms of thinking, I am also responsible for what is around. And it's cool, you just have to support them" (C4.R8). Analysing the experience of the examined office, it can be concluded that cooperation with widely understood partners is comfortable for them. Often, without cooperation with other organisations, they would not be able to start a crowdsourcing initiative: "(...) from the point of our knowledge, it is not possible for the institutions themselves to apply for these funds, as if in a sense they initiated crowdfunding campaigns. There is no way we can initiate crowdfunding as an institution ourselves and also apply for funds" (C4.R8). Crowdsourcing has enabled the office to meet the expectations of residents, draw conclusions, and make improvements to activities performed in the future: "thanks to the fact that they show the office employees what they expect, what they would like to improve and what to correct – the employees can modify their way of working and functioning" (C4.R8).

CONCLUSION

This article is a voice in an important discussion on a new paradigm that combines crowdsourcing with organisational learning. It is intriguing and at the same time important from the point of view of creating the theory and practice of managing public organisations. Based on the assumptions of the theory of scientific revolutions [8], the paradigm is characterized by the fact that it leads to the solution of the problem and constitutes a historically variable *consensus omnium* of the community of researchers of a particular discipline [15]. Organisational learning is recognized in the literature as an "alternative paradigm by which systems can change" [4]. In addition, organisational learning offers an

alternative paradigm by which systems can change, thus permitting us to redefine the economy and society. Our research shows crowdsourcing as the basis for the emergence of a scientific concept, and hence the organisational learning paradigm. The results show that regardless of the type, crowdsourcing is perceived as an adaptation to changes in the environment and a contribution to changes in practices. First of all, the idea of crowdsourcing was created out of the desire to imitate (in the case of collective intelligence) as well as the openness and experience of managers (in the case of crowd creation, crowd voting, and crowdfunding). This is identical with the findings of Crossan et al. (1999). It boils down to the fact that the expert origin of intuition is a process of prior model recognition. Secondly, interpretation is the process of organisational learning, in which individuals verbalise or implement their own observations and engage in collective understanding, in particular: the inclusion of stakeholders (collective intelligence), establishing cooperation of all departments (crowd creation), joint action (crowd voting), and the development of the society's potential (crowdfunding). Thirdly, integration comes down to a common understanding of members in a group [5], [1] and involves a change in collective understanding at group and organisation level. The municipal offices studied declare that knowledge acquired from virtual communities using crowdsourcing is useful and possible to use in everyday work (collective intelligence). Fourthly, institutionalization comes down to taking routine actions and embedding them in organisational systems, structures, procedures, and practices. The surveyed offices declare that the knowledge acquired from crowdsourcing has contributed to the modification of organisational procedures (collective intelligence), increased crowd satisfaction, technological improvements (crowd voting) and openness to improvements (crowdfunding). In this way, the obtained results of empirical research give rise to the recognition of crowdsourcing as a new, emerging paradigm of organisational learning, regardless of its type. Summing up, crowdsourcing in the learning process of public organisations is a completely new approach [3], which, due to the development of information technologies, the social media, and the stakeholder model, will probably gain on significance and may become a new paradigm of organisational learning in the future.

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REFERENCES

- [1] Argyris C. & Schön D. Organizational learning II. Reading, Addison-Wesley, MA, 1996.
- [2] Brabham D. C. Crowdsourcing as a model for problem-solving an introduction and cases, *Convergence*, vol. 14(1), pp 75-90, 2008.

[3] Brabham D. C. Crowdsourcing in the public sector, Georgetown University Press, Washington, 2015.

[4] Burnes B., Cooper C. & West P. Organisational learning: the new management paradigm?, *Management Decision*, vol. 41(5), pp 452-464, 2003.

[5] Crossan M. M., Lane H. W. & White, R. E. An organizational learning framework: From intuition to institution, *Academy of Management Review*, vol. 24(3), pp 522-537, 1999.

[6] Howe J. The rise of crowdsourcing, *Wired magazine*, vol. 14(6), pp 1-4, 2006.

[7] Howe J. *Crowdsourcing*, Crown Publishing Group, New York, 2008.

[8] Kuhn T. S. *Struktura rewolucji naukowych*, Fundacja ALETHEIA, Warszawa, 2001.

[9] Lewandowski M. & Kożuch B. (eds.), *Public sector entrepreneurship and the integration of innovative business models*. IGI Global, Hershey, PA 2017.

[10] Murray P. & Donegan K. Empirical linkages between firm competencies and organisational learning, *The Learning Organization*, vol. 10(1), pp 51-62, 2003.

[11] Nam T. Suggesting Frameworks of Citizen-Sourcing via Government 2.0, *Government Information Quarterly*, vol. 29(1), pp 12-20, 2012.

[12] Parkes A., Bednarek M. & Sułkowski Ł. *Kulturowa zmienność systemów zarządzania*, Difin, Warszawa 2016.

[13] Donegan P. K. Empirical linkages between firm competencies and organisational learning, *The Learning Organization*, vol. 10(1), pp 51-62, 2003.

[14] Schlagwein D. & Bjorn-Andersen N. Organizational Learning with Crowdsourcing: The Revelatory Case of LEGO, *Journal of the Association for Information Systems*, vol. 15(11), 2014.

[15] Sułkowski Ł. Paradygmaty nauk o zarządzaniu, *Współczesne Zarządzanie*, no. 2, 2013.