Article

Crowdsourcing—A New Paradigm of Organizational Learning of Public Organizations

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Abstract: Increasingly, it is postulated in the literature that crowdsourcing may be important for organizational learning. However, research in this area has only been conducted in the environment of mature and innovative Scandinavian organizations. Researchers omit public organizations in their deliberations. The aim of this article is to empirically identify the importance of crowdsourcing for the organizational learning of municipal offices, and thus to identify crowdsourcing as a new organizational learning paradigm. The considerations carried out to this aim are important because organizational learning is a prerequisite for running contemporary policies and ensuring sustainable development of public organizations. Studies subordinated to the implementation of the goals set were carried out using the analysis of a typical case study. Four municipal offices operating in Poland implementing four types of crowdsourcing according to the division made by J. Howe were chosen for the research object in a purposeful manner. It is worth noting that the results obtained not only confirm, but also complement the postulates in the subject area of knowledge. The implementation of research allows to recognize crowdsourcing as a new and fast developing paradigm of organizational learning.

Keywords: crowdsourcing; organizational learning; organizational learning paradigm

1. Introduction

The growing expectations of citizens, the willingness to co-decide and co-participate in decision-making processes which concern them, but also technological progress, the need to implement the demands of sustainable development—including openness, transparency, and clarity of activities undertaken by public organizations and the obligation of organizational learning—make these organizations, including municipal offices, start looking for solutions that will allow them to meet all the demands placed. Research shows that organizational learning and shaping sustainable development is not simple. Both organizational learning and sustainable development require a multidisciplinary approach, catalysts, and activating factors. The latest literature indicates that sustainable development as well as organizational learning of public organizations are based on cooperation with citizens and their inclusion in decision-making, also using Information Technology (IT) and communication technologies. One of the solutions that enables this inclusion is crowdsourcing. First, some "scholars consider application of crowdsourcing platforms as a pathway to sustainability" [1]. So, "investments in human and social capital and traditional (transport) and modern (ICT—Information and Communication Technologies) communication infrastructure fuel sustainable economic growth and a high quality of life, with a wise management of natural resources, through participatory governance" [2]. Secondly, implementing sustainable development in organizations necessitates organizational learning [3].

Crowdsourcing is one of the new themes that has appeared in the last decade. Crowdsourcing is no longer just a paradigm of online problem solving, open design, computer networks, knowledge management [4], and participation. Crowdsourcing could be interpreted from different cognitive perspectives, going out from functional by interpretativist up to critical paradigms [5,6]. However, in the context of public organizations crowdsourcing is perceived mainly as a way to generate information, co-produce services, and create new solutions and public policies [7]. This means that public organizations, by means of using crowdsourcing, obtain information from citizens to improve public services and their shaping [8]. Despite the universality of the term, its effects and significance for the activities of managers and entrepreneurs are insufficiently researched and it mainly concerns the significance for public policy, and not for the organization itself. It should also be noted that since relatively recently, in 2014, crowdsourcing has been linked to the access of the organization to valuable knowledge resources, and only a few authors indicate the importance of crowdsourcing for organizational learning [9]. However, research in this area has only been conducted in the environment of mature and innovative Scandinavian organizations [10]. Researchers omit public organizations [11], in particular municipal offices, in their deliberations. The literature emphasizes, however, that research should be conducted in cities since crowdsourcing is embedded in their strategies and helpful during spatial planning. It is also crucial for the socio-economic development of cities, the creation of public policies aimed at providing basic living standards and involving residents in the decision-making process. Cities, on the other hand, become centers and engines for the development and improvement of the innovative economy.

The article consists of six parts. After the introduction, in the second part the results of a systematic review of literature in the identification of the importance of crowdsourcing for organizational learning of public organizations is presented. The third part presents the empirical research method, where the characteristics of municipal offices selected for the study in a purposeful manner, the method of data collection and analysis are included. In the fourth part, the results of the research including four types of crowdsourcing are included. The last two parts are devoted to a discussion and a summary. The latter includes research limitations, implications for management theory and practice, as well as the directions of further research.

2. Literature Review

In order to identify the importance of crowdsourcing for organizational learning in public organizations, articles were reviewed in scientific journals available in international databases: Ebsco, Elsevier/Springer, Emerald, ProQuest, ISI Web of Science, Scopus, and Wiley. Key words that were identified in order to search through the databases are: "crowdsourcing", "public sector", "organizational learning". As a result, a total of over 46 thousand publications were obtained from searching through these databases. Subsequently, the following restrictions were imposed on the identified articles: (1) full-text, peer-reviewed publications, (2) crowdsourcing in the title, abstract, and key words, and (3) management science. Duplicate publications, books, chapters in books, dissertations, and post-conference materials were eliminated. Additionally, abstracts of selected articles were analyzed in order to find publications of an empirical nature. A snowball procedure was also used by reviewing the bibliographic notes referred to in the articles. In total, 140 articles were collected in this way.

The existing studies on crowdsourcing in public organizations have focused on the importance of virtual communities and their motivation to join the municipal office's crowdsourcing initiative [12]. Research was also carried out on the importance of the virtual communities for knowledge management in Irish civil services. Whereas, in studies conducted by O. Roznit, A. Geet, K. Goh See in the Municipal Board of Streets and Bridges in Malaysia, it was assumed that virtual communities can contribute to the improvement of knowledge and processes. As demonstrated by the results obtained by G. Thomas and R.A. Both virtual communities can contribute to sustainable coordination. Others concerned the importance of crowdsourcing for knowledge sharing. Most often, however,

it is recognized that crowdsourcing fosters solving organizational problems [13–18], shaping public policies [19], generating a better quality of public services [20] at lower costs, and improving communication between employees and citizens [21]. Research on crowdsourcing in public organizations shows that properly designed crowdsourcing platforms can increase brand recognition, customer satisfaction and loyalty [22], the position of citizens, create legitimacy of the government towards people, and increase the effectiveness of public services. Crowdsourcing is important for improving the efficiency of public officials' work [23].

In the latest literature, researchers suggest that future research should focus on identifying the importance of solutions based on Web 2.0 technology [24] for organizational learning. As L. Argote emphasizes, research is going in this direction is the future of research on management sciences. One of these solutions based on the Web 2.0 technology is crowdsourcing. Organizational learning of public organizations is important in particular for improving the quality of public services, implementation of public policies, achieving strategic goals, and increasing the efficiency of public organizations. It can also be a tool for controlling and auditing an organization [17] and a condition for survival in a globalized environment. Organizational learning improves the structure and procedures, which contributes to the ability to solve problems. It boils down to better preparation of the organization for future challenges [24]. In addition, it contributes to sustainable development.

3. Empirical Research Design

3.1. Type of Study

The study employs a case study procedure with a single case study replication strategy in the form of an analysis of the multiplication of similar cases. It was considered that the use of a parallel single study of similar cases would allow us to notice variables unnoticeable in the course of literature preparation for research and ensure the reliability of the results obtained. The main intention of the case study is to present and explain ways of solving various problems that a manager can face [25]. It allows for looking at the phenomena and understand the relationships that exist between them. As R. K. Yin points out, "the case study is an empirical study that explores the contemporary phenomenon (case) in the context of reality, especially when the boundaries between the phenomenon and the context are not completely obvious" [25]. Moreover, the case study is one of the qualitative research methods that are oriented on understanding the situation, the nature of a specific phenomenon, process, or event, and determining the direction of dependence between theoretical constructs. It allows for developing the existing theory; explaining phenomena that have not been recognized so far; analysing the behavior of the organization; testing the theory and understanding the circumstances of events and processes without manipulating their course; and understanding the nature of a specific phenomenon, its causes, sources, conditions, context, and interaction with other phenomena. R. K. Yin [25] argue that the case study is a knowledge base that provides direction for future research and uses a holistic approach to the study of real events. In connection with the above, the case study was used to gain a deeper insight into the contemporary problem in its true context. Due to the fact that crowdsourcing is still a relatively new concept, the above-mentioned advantage of case studies over other methods may result from the desire to thoroughly investigate and better understand the reality and the early stage of knowledge development about the importance of crowdsourcing for organizational learning.

3.2. Case Selection and Characterisation

As it has already been indicated, the article adopts a qualitative approach using the case study procedure. Due to the purpose of the article, as well as the purpose of using the case study itself, the choice of subjects was conscious and intentional. This means that the selection of the sample neglects the criterion of representativeness, and it is more important to select cases that present the investigator's interesting phenomena in a visible and expressive manner. Hence, the randomness of selection is neither necessary nor even desirable. The selection of the research subject was carried out

using the funnel method. First, the search for appropriate public organizations was narrowed down to the municipal offices. Previous research has concerned crowdsourcing in ministries, governments and government agencies [19,26,27], and healthcare [13]. 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. In addition, according to the authors of the World Bank 2009 Report, the socio-economic development of cities is of key importance with the creation of public policies aimed at providing basic living standards and including residents in decision-making. Thus, cities are becoming the centers 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 of 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 J. Howe [11], should be identified. Fourthly, the selection of cases from the same population is aimed at limiting the number of variables affecting the explained variables. 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: The City of Lublin Municipal Office (collective intelligence), the Capital City of Warsaw Municipal Office (crowdcreation), the Municipal Office in Dąbrowa Górnicza (crowdvoting), and the Municipal Office of Krakow (crowdfunding). In the further part of this 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. The literature states that for methodical and pragmatic reasons the research sample subjected to the case study method should be in the range of 4 to 10 research subjects. Table 1 below presents a synthetic approach characterizing the municipal offices under study.

Table 1. Principal elements of the characteristics of the municipal offices studied in the form of case studies.

Elements of the Characteristics	Case 1 City of Lublin Municipal Office	Case 2 Capital City of Warsaw Municipal Office	Case 3 Municipal Office in Dąbrowa Górnicza	Case 4 City of Krakow Municipal Office
City area	147 km^2	517 km^2	189 km^2	327 km^2
Population	340,000	1,758,143	125,000	760,000
Unemployment rate	6.2%	5.6%	6.1%	3.2%

Source: own elaboration based on data of the Central Statistical Office and websites of the municipal offices under study.

3.2.1. 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. The platform is divided into seven categories: the image of the Lublin region, entrepreneur-office, foreign economic missions, security and public order, networking, entrepreneur-university, and exports. Within individual categories, members of the online community are asked questions. There are rewards for registered and active users. They can collect points for adding an idea or comment, which can later be exchanged for prizes.

3.2.2. Case 2. Capital City of Warsaw Municipal Office (an Example of Crowdcreation)

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. In total, "Otwarta Warszawa" included four thematic areas that were addressed to residents in the form of questions: (1) space; (2) culture and recreation; (3) time machine; and (4) Warsaw's identity. In each of these areas, registered users could provide answers and submit their proposals. The ideas sent were evaluated by a jury.

3.2.3. Case 3. Municipal Office in Dąbrowa Górnicza (an Example of Crowdvoting)

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. After adding them, they are sent to one organisational unit of the Office, and then they are sent to appropriate departments or units. The people making the notifications can then follow the execution status of a given alert.

3.2.4. 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). The assumption was to collect PLN (Polish Zloty New) 20,000 PLN for land development. The campaign began in October 2016, and the collection lasted from 15 December 2016 to 31 January 2017. According to the policy of the portal, a reward was provided for each depositor. It was possible to collect PLN 23,272 vs. 20,000 necessary for the implementation of the project. A total of 249 people made the payments.

3.3. 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 2).

Table 2. Overview of data collected.

	City of Lublin Municipal Office	Capital City of Warsaw Municipal Office	Municipal Office in Dąbrowa Górnicza	City of Krakow Municipal Office
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 min. With the consent of the interviewees, all interviews were recorded. Subsequently, they were transcribed.

3.4. Data Analysis

It should be emphasized that the analysis of qualitative data is a process similar to viewing reality in a kaleidoscope [28] or navigation in a maze, which means the need for transparent data analysis. The basis for data analysis is the interpretation approach. Its choice was the desire to discover and understand organizational 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 organizational 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. It should be noted that narratives are usually created accidentally [9]. Therefore, the questions asked to the respondents were formulated in such way as to capture the actions that had been undertaken before the crowdsourcing appeared, and then attempted to capture the actions that were taken after the appearance of crowdsourcing. The use of four case studies was useful in studying the use of crowdsourcing types for organizational learning. For reasons of consistency and clarity, the qualitative study was of an iterative nature. Thanks to this, the narrative analysis made it possible to present the perspective of the organization's participants. This refers to D.M. Boje's approach who believes that narratives can be selectively different depending on the recipients [9]. Taking this into account, it was assumed that the respondents should be persons from the top management. The analysis of the four case studies provided rich and insightful information on crowdsourcing and organizational learning, and it served to assess crowdsourcing as a new organizational learning paradigm. In the case of organizational learning, an original multidimensional approach to organizational learning was adopted, taking into account the 4I model by M.M. Crossan et al. [29] (Figure 1). The authors proposed four subprocesses, namely, intuition, interpretation, integration, and institutionalization. The literature indicates that the 4I model can be used to study various forms or ways of organizational learning [18,22,30,31].
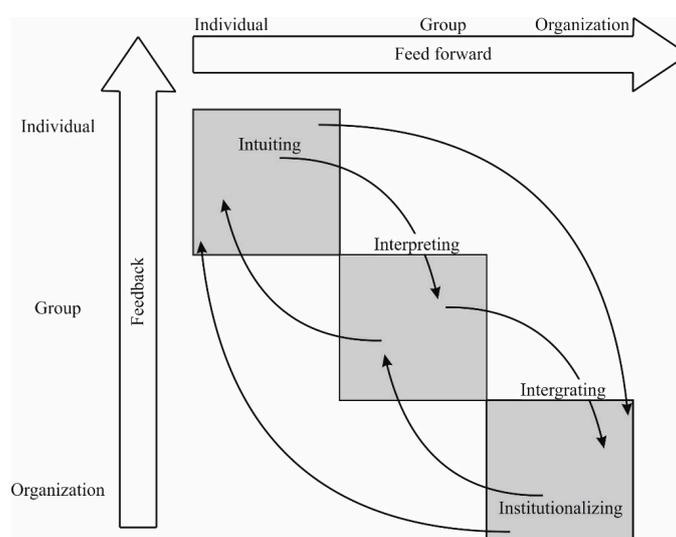

Figure 1. Crossan et al.'s model of organizational learning (4I).

The 4I model by M.M. Crossan, H. Lane, and R. White assumes that organizational learning is multidimensional and takes into account the individual, group, and organizational level. Moreover, all three levels are interlinked by social and psychological processes, and cognition and action influence each other. These processes are: intuition, interpretation, integration, and institutionalization. In addition to the distinguished and discussed organizational learning processes integrated into levels, M. Crossan and her colleagues also distinguish two learning processes: feedforward and feedback. The first process, intuition, is a pre-conscious recognition of the pattern and/or possibilities associated with a personal stream of experience.

The second process, interpretation, is a conscious explanation, expression, and discussion of ideas and insights with other members of the organization. We are talking here about collective activities, dialogue, discussions, meetings, or other means of communication. Next, integration consists in a common understanding of the group members. It focuses on updating ideas through collective actions and common practices. The fourth organizational learning process is institutionalization. It boils down to embed individual and group learning in these systems, structures, strategy, cultures, and organizational procedures. In the case of feedforward, new ideas flow from individual level to group level and further organizational level. However, in the case of feedback, the structures, systems, and strategy embedded in the organization are transferred to the group and individual level. It should also be underlined that although the individual, group, and organizational level are treated in the literature as separate, they are interrelated since there is interactivity and mutual relationships between them.

4. Analysis and Results

4.1. 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. We are also evaluated by the local governments, but we also evaluate ourselves through various benchmarking forms, or in the near future we will also implement several projects related to managerial improvement, the quality of implementation of projects, not only by this 9000 standard, but also through Common Assessment Framework (CAF), through other standards, which are to improve, but also bring closer these management and administrative functions to the residents, but also the other way round so that residents in some areas can co-decide on the tasks carried out" (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 M.M. Crossan et al. [29], where intuition is the process of an earlier recognition of models. In this case, imitating other, already proven solutions was fundamental as an explanation of the origin of intuition.

The next process, interpretation is a conscious explanation, expression, and discussion of ideas and insights with other members of the organization. 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 a sense, aggregate and try to use all the data that is there" (C1.R1). Information, obtained in this way, contributes to the revision of the current action, setting new strategies and seeking answers to the question whether the new venture will bring the assumed results. This applies to explaining, cooperating, discussing, supporting, and selecting specific ideas. Thus, problems are identified in a new light, using knowledge from crowdsourcing. In other words, crowdsourcing allows offices to reinterpret their problems: "(. . .) To acquire this information in such a very open formula, that is, not to impose certain rules in some cases. Let's prepare a specific document that is only subject to a certain consultation or selection, or the

selection of these comments to be made, which are submitted. On the contrary, we also try to acquire knowledge, information, what is important for residents, for the community, to create only a solution and documents that affect the functioning of the municipality in general, the implementation of tasks in this area by the local government's administration" (C1.R1).

The basic feature of integration is the mutual understanding of members in a group. It focuses on updating ideas through collective actions and common practices. It includes testing, evaluation, and the final introduction of an idea—hence starting with organizational cognition and ending with action. Thanks to cooperation and adaptation, we develop common understanding and give meaning to activities. Communication and cooperation are of key importance here. Communication not only allows learning, but also allows us to retain what is the result of the learning process and pass on the knowledge thus obtained: "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. Therefore, we are trying to find a model that would interest a larger group of people, interest specific environments, so that this would not only be somewhat an illusive kind of action" (C1.R1).

Institutionalization, the last process in the 4I model, refers to embedding in organizational systems and procedures what has been worked out during learning. This allows the organization to root knowledge, regulating its activities and using what the organization has learned so far. This process generates new applications based on the previous experience of employees and employee teams. All this will allow the organization to adapt to the requirements of the environment: "I will say yes, any process that is not carried out by one specific person, or one institution, and it also seems to rely on the evaluation by other people and in this open formula, is in some way the extension of this process, in terms of just showing or searching for certain solutions, collecting this, analyzing and later developing and selecting some models for action (. . .) 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).

4.2. Case 2—Crowdcreation

Intuition takes place on an individual level and is defined as "the preconscious recognition of the pattern and/or possibilities inherent in a personal stream of experience" [29]. The central point of this process is a feeling. Personal experiences of individuals in the organization allow them to recognize patterns and see new opportunities and answer two questions: how to do and how to do it differently? This allows us to recognize the current situation and reference it to past patterns and create new connections and see innovative possibilities. It should be emphasized that 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 organization should want and be able to redefine its current course of action and discover hidden problems, using its past and employees' competences. Expanding knowledge about problems allows the interested parties to cover hidden problems and link them to previously unresolved issues, hence, the importance of employee competencies. In the case of crowd creation, openness to new products is the most important link: "(. . .) Ms. Mayor has always been very open to the exchange of personnel and also made it clear that brave people, with ideas, have a chance to break through" (C2.R4). "(. . .) somehow I manage to inspire the team and the most important thing is that you have an idea. (. . .) I understand that there are limitations and that there is fear of new things, it is better not to do anything, so that the councilors do complain that the money was spent in a bad way, what for and why? So you have to have some courage, you have to believe and look for potential sponsors"

(C2.R3). 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, crowdcreation 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. It was voiced 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). This allows them to be more effective and efficient in their actions: "We need to talk about a systemic approach, which in practice boils down to encouraging and involving other departments to implement new endeavors (. . .) we need to know how these things overlap, it is also a pain for all offices, namely that they cannot see each other, everyone entrenches in their own (. . .) we have to see one another and talk about modules" (C2.R3).

As it has already been mentioned, institutionalization takes place when new activities become part of the organizational routine and systems. 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). The respondents admit, however, that crowdsourcing has contributed to the satisfaction of office staff and the residents. The aftermath of the crowdsourcing initiative was a competition for ideas improving the functioning of the office "Employee Suggestions". As part of the first edition of the competition, the idea for access for the employees to Warsaw's photographs intended for promotional and information activities was distinguished. One of the interviewees recognized that the employees have become more innovative and creative. Thus, it can be said that "Otwarta Warszawa" encouraged the employees of individual offices to enter into discussions and reach for the opinions of others: "that is, they introduce some important documents, they ask how to do it, what activists and residents to meet" (C2.R4).

4.3. Case 3—Crowdvoting

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).

Language in interpretation plays a fundamental role. At the beginning it was important to establish cognitive maps: "we want to implement something together so that the residents can decide what they want. The beginnings were difficult, but now we understand each other without words" (C3.R5). This allows the inclusion of all interested parties and the joint development of solutions to problems that organizations may face and ask. This approach is identical to the proposal of Crossan et al. [29].

In the studied case of the crowdvoting, 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). Crowdvoting has increased the use of technology by the technology office to handle matters: "it was our first technological innovation that emboldened us to introduce more" (C3.R6). Thanks to that the office changed its organizational procedures so that they could be introduced.

4.4. Case 4—Crowdfunding

Employees' competences and organizational competences are important in relation to the ability to rediscover. In particular, the organizational ones are dynamic in nature and manifest themselves in the ability to behave in a manner adequate to the requirements of the situation. This is confirmed by the findings of other authors. They recognize that proper management of human resources can increase confidence and motivation among employees involved in crowdsourcing [32]. This can also be seen in crowdfunding: "We have a very nice, young team interested in the world and it is as it seems the key to success, which for sure is great, and we also have a director with an open head. These are the two things that are absolutely indispensable. If the director is not afraid of such innovative and sometimes seemingly crazy ideas like. I don't know, for example planting tens of thousands of bulb plants on the boulevards, yes, it was one of our first activities, and imagine if someone with such a clerical head would hear about it he/she would have tapped on it and it would end at that, but if first of all he trusts us, and secondly, he also has such intuition and has . . . , he is passionate about his work, so he nods willingly" (C4.R8). Therefore, in the case of crowdfunding, the basis of intuition was the openness of the management staff.

For the office under study, the aim of the crowdfunding endeavor 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).

Analyzing 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 organizations, 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).

What is more, the office recognizes the potential of the residents and their openness and willingness to change the reality that surrounds them: "(. . .) I myself seeing the potential of young people who enter the labor market who have their ideas and are volcanoes of ideas, I believe from the beginning that you must support and develop this passion and the willingness to change the world. So it shows that this potential of young people, the potential of students, supported by scientists with experience, pays for us and gives ideas developed in this way which are valuable" (C4.R7).

The above fragments indicate the residents' willingness to cooperate. Knowledge acquired in this way allows the office to learn about possible threats that may arise as a result of occurring deviations. This means that the organization must develop a way to respond to the requirements of the environment and quickly implement them. Which is in line with the feed forward principle: "the residents show us a place which in the eyes of the residents requires investment and those that are important to them. It is also an opportunity to involve the residents and build their involvement. For the Office, crowdfunding is an opportunity to obtain ready ideas from residents, refresh and renew the city's brand, and get extra hands to work and meet their expectations" (C4.R8).

Crowdsourcing has enabled the office to meet the expectations of residents, draw conclusions, and make improvements to activities performed in the future: "These are sometimes really small things that affect the improvement of the functioning of the website. Recently, such a topic appeared somewhere, that some information was on the site, but you had to go inside the Public Information Bulletin to find them. After the residents' signals we made a tab with infographics on the main website. This is a trifle, but I see that such a thinking in these categories is meeting the residents' expectations" (C4.R8). In addition, crowdsourcing allowed the office to learn from the residents: "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).

5. Discussion

Our research shows crowdsourcing as the basis for the emergence of a scientific concept, and hence the organizational learning paradigm. In our study, we consider organizational learning as a dynamic process, according to the concept of Crossan et al. [29] and covering three levels: individual, group, and organizational, which are interrelated by social and psychological processes. 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, according to the 4I model, organizational learning begins with intuition. From the perspective of the studied municipal offices, it is the openness and willingness to cooperate with employees that is important when using crowdsourcing. The intention of the municipal offices that have started the implementation of the crowdsourcing initiative was their will to reformulate the existing way of functioning and to seek new sources of knowledge. 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 crowdcreation, crowdvoting, and crowdfunding). This is identical with the findings of Crossan et al. [29]. It boils down to the fact that the expert origin of intuition is a process of prior model recognition.

Next, interpretation is the process of organizational learning, in which individuals verbalize or implement their own observations and engage in collective understanding, in particular the inclusion of stakeholders (collective intelligence), establishing cooperation of all departments (crowdcreation), joint action (crowdvoting), and the development of the society's potential (crowdfunding). As part of the study, it was found that the virtual knowledge gained from the community launched an innovative approach to the employees in carrying out the tasks assigned, but they also took courage to initiate new ideas or improvements. What's more, employees began to cooperate and share knowledge more willingly. This can be compared to the processes of socialization, the adaptation of individuals to the organization. This discovery supports the general view that crowdsourcing can contribute to employees' productivity and willingness to cooperate with other units within the organization.

Integration comes down to a common understanding of members in a group and involves a change in collective understanding at group and organization 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). In addition, the offices recognize that they have become bolder when they are to undertake new projects (crowdcreation), their employees are more willing to cooperate (crowdvoting), and they invite diverse communities (crowdfunding) to cooperate.

Institutionalization comes down to taking routine actions and embedding them in organizational systems, structures, procedures, and practices. The surveyed offices declare that the knowledge acquired from crowdsourcing has contributed to the modification of organizational procedures (collective intelligence), increased crowd satisfaction, technological improvements (crowdvoting) and openness to improvements (crowdfunding).

In total, all city councils studied admitted that crowdsourcing allowed them to adapt to the expectations of the surroundings and increased openness to the opinions of residents, while three offices out of four studied stated that there was an improvement in the quality and increase of the services offered. This refers to the findings that organizational learning means the process of improving actions through better knowledge and understanding. Many researchers perceive organizational learning as an adaptation to environmental changes. In addition, the offices indicate that crowdsourcing has contributed to an increase in the satisfaction of the residents and employees. Which is consistent with the fact that organizational learning enables an organization to influence its surroundings. In addition, the described descriptions of organizational learning taking into account the concept of 4I, show that learning can be influenced by many factors and results from internal stimuli, including, inter alia, the innovative aspirations of managers. Our research shows that the openness of the management of the offices is of great importance for organizational learning using crowdsourcing. Some authors believe that as a result of organizational learning, the scope of potential behavior of the organization may change and its aims may change.

The municipal offices studied indicate that owing to crowdsourcing, the use of technology to handle matters has increased. Such results are justified by the fact that organizational learning allows changing the rules and practices of conduct in the organization. This corresponds to the fact that organizational learning is the result of changes in the current behavior of the organization. In this way, the obtained results of empirical research give rise to the recognition of crowdsourcing as a new, emerging paradigm of organizational learning, regardless of its type.

The conducted research presents practical value, which is connected with the possibility of proposing the importance of crowdsourcing for organizational learning of municipal offices. It is important to plan, consciously and systematically using crowdsourcing to shape and raise the level of organizational learning. In particular, it is essential for increasing the openness of public organizations to signals coming from the environment; meeting the challenges of contemporary times; the requirements for adaptation and changes in the way of acting and management; the need to increase efficiency, effectiveness, transparency, responsibility in the implementation of administrative processes by these organizations; and conforming to the postulates for sustainable development.

6. Conclusions

This article is a voice in an important discussion on a new paradigm that combines crowdsourcing with organizational learning. It is intriguing and at the same time important from the point of view of creating the theory and practice of managing public organizations. Based on the assumptions of the theory of scientific revolutions [33], 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 [34]. The paradigm is a conceptual framework, a way of looking at the world, a set of assumptions, theories and models that are widely accepted and shared in a specific field of activity at a specific moment. We are talking about significant and important advances in the perception of the world. Organizational learning is recognized in the literature as an "alternative paradigm by which systems can change" [30]. In addition, organizational learning offers an alternative paradigm by which systems can change, thus permitting us to redefine the economy and society. As Sudoł points out, scientific truths can be considered as paradigms due to their importance to the functioning of science, compliance with the reality existing in the organization, and the degree of generality that allows them to refer to other organizations [35].

We are fully aware that our study is not free of its limitations. The survey was conducted in four city offices in Poland out of the 27 that make use of crowdsourcing. Thus, our sample may be considered relatively small, however it is consistent with the guidelines for a multiple case study, that is, a range of four to ten cases. However, our research is the most extensive as far as municipal offices in Poland are concerned, because so far such studies have not been conducted at all. Considering the above, further research should be conducted on a larger sample. Secondly, the study was conducted using the case study procedure, which means focusing on individual objects and lack of ambition to form generalizations about the community. However, it allows for theorem-making, theory testing and application type use. Moreover, rigorous implementation of the case study procedure contributed to the avoidance of accusations related to accidental data collection, unsystematic data analysis, arbitrary treatment of the creation of the theory, the inability to use the theory to test and the incompleteness of the criterion of intersubjective verifiability. The study was limited to one sector. However, it is the municipal offices that are recognized as those in which this type of research should be carried out. Therefore, purposeful selection is justified theory-wise.

Summing up, it should be recognized that the conducted research is a contribution to further work on recognizing crowdsourcing as a new paradigm of organizational learning. Moreover, conducting further research on its specificity using quantitative research that will allow to examine the relationship between crowdsourcing and organizational learning is encouraged. As a result, this research will allow for verifying the correctness of the findings and formulations.

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