

Social media use for decision making process in educational settings: The Greek case for Leadership's views and attitude in Secondary and Tertiary Education.

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Abstract

The emergence of social media and their wide usage have brought changes in almost all fields of public sphere. Nowadays governmental organizations, agencies and politicians use social media in order to ensure major civil participation, enhance e-dialogue and e-democracy consequently, emphasizing thus in participatory processes through which opinions are co-shaped and decisions are jointly made. On the other hand, in another field of public sphere, that of education, social media are mostly used for teaching support, promotion and publicity. Taking into account education's key role in the cultivation of active citizenship as well as the fact that educational structures are self-governed, the aim of this study was to identify leadership's views of Greek Secondary and Tertiary Education on the potential use of social media in educational environments for the purpose of a participatory decision-making process which broadens stakeholder involvement in educational policy-making.

1. Introduction

There is no doubt that social media as a group of technological applications have changed our lives. Nowadays they are utilized in a range of activities not only in private but also in public sphere. Referring to the latter, social media are used in politics and public governance ensuring, provided their proper use, direct and on time information to citizens, but mostly their active involvement in issues affecting them.

In political life for example social media play an important role in political communication [1]. Election campaigns such as Obama's in 2008 are successful examples of social media utilization highlighting a new political practice model with emphasis on open governance, citizens' digital access to public data, accountability and control, economic openness and willingness for cooperation [2]. Furthermore, at a time when politics is in sharp crisis, the need to re-ensure citizens' trust on politicians is immediate, leading the latter to use social media in order to communicate with their voters aiming at promoting e-dialogue. In the context of movements' organization, the Arab Spring or the movement in Taksim square seem to have relied on social networks enabling an extended organization of citizens [3,4] attempting for a mutual goal. Last but not least an increasing adoption of social media by government agencies should be noted in recent years, leading to e-governance. By engaging social media in governance, the participation of a larger number of citizens becomes easier allowing the integration of their views in the formulation of policy.

So with reference to the fields of politics and governance, individuals and organizations appear to emphasize on a new operating model that focuses on citizens' priorities and needs. This approach requires insight of them and enforcement of their participation, made possible by using social media that people already use for personal reasons.

Social media have also been exploited in every level of education. Their usage is incorporated in the learning process. As a consequence, a number of benefits are recorded such as teaching innovation, students' easier and faster access to information, knowledge sharing, cooperation enhancement,

participants' satisfaction increase, growth of skills related to ICT usage and to communication abilities [5-10]. In Higher Education Institutions social media are also utilized either as means of information or for publicity reasons. In a smaller percentage they are used for communication with the alumni or society in general, strengthening students' participation, reinforcement of the academic community and counseling provision to students [11].

As far as it is known, unlike the fields of public governance, politics or social movements, social media are not used in educational settings as means for consultations where stakeholders' opinion would contribute to the formulation of educational policy. Education aims principally at active citizenship configuration promoting open dialogue, participation and cooperation. So it is controversial and rather surprising that even though Education promotes cooperation for co-joint decisions, that even though social media are utilized in a number of activities in educational settings and are used for the purpose of citizens' engagement in public participatory processes, literature hasn't recorded social media usage for participatory processes that lead to decision making in educational settings.

This observation motivated us to investigate social media usage in educational environments for decision making processes activation and led us to record the attitude of the leadership of the Secondary and Higher Education structures, in Greece, in relevance to this topic. The main contribution of this paper, which tackles a topic that the literature has not dealt with it, consists in detecting the potential benefits and problems for the educational environments coming from a participatory decision-making process by using social media enlightening thus the topic of e-governance in education.

The rest of the paper is organized as follows. Section 2 addresses related work on policy making using social media especially in the frame of public administration and it sets the raised research questions. Section 3 briefly presents the research subject, the research methodology followed and the instrument by which it was implemented. In Section 4 the results that came up from the two interrelated stages of the research are presented, while section 5 recalls the main findings of the research in comparison to previous research and literature. Finally, section 6 concludes our findings and discusses future research objectives.

2. Related Work and Questions Raised

Public participation is a key factor for the democratic function of a society. According to [12] "public participation may be defined at a general level as the practice of consulting and involving members of the public in the agenda-setting, decision-making, and policy-forming activities of organizations or institutions responsible for policy development".

Planning public policy is a demanding task in most fields. According to "wicked problems" theory [13] during the last decades the nature of public policy problems has changed significantly being more complex while stakeholders perceive the problems and their objectives differently, which leads in evaluation criteria of possible solutions, not clearly defined. As a result of this complexity and given the continuing challenge of enhancing pluralism in a democratic society, nowadays public policy problems require approaches that combine firstly consultation among stakeholders who face a social problem in order to reach a commonly accepted definition of it and secondly mathematical analysis of the defined problem. Within these approaches, consultation process may be and is supported by ICT which allows stakeholders to interact placing subjects on a debate, raising issues and questions, arguing and expressing ideas and possible solutions [14, 15].

In this frame, surveys, polls, public consultation committees and referendums as "off-line" mechanisms were originally used for citizens' participation in decision and policy making [16]. As [17] state the rapid development and the growing penetration of ICT and especially the Internet enabled the emergence of new digital mechanisms that have lower operating cost and facilitate the participation of a much larger number of citizens from different groups leading thus to e-participation development.

In the first generation of e-participation government agencies such as parliaments, ministries, municipalities developed and used official websites through which citizens were informed. This approach had a top-down orientation using structured e-forums within a predefined layout of discussion such as e-surveys and e-polls where citizens were able to express their views and prepositions. The results of this e-participation were much lower than expected since citizens' participation was limited [18, 19].

Within the second generation of e-participation, governmental organizations used popular social media such as Facebook, Twitter, YouTube, Flickr. Citizens' high participation in these channels provided vast information regarding views about governmental policy, social needs, problems and suggested actions. In this bottom-up approach, citizens' e-participation was less controlled by

governmental organizations, which despite they set the topics up to a point, they did not control the rules of the discussion, defined by social media [20-23].

The third generation of e-participation is characterized by the minimization of the government agencies' control. Organizations now search in the content created freely by the citizens in social media and other sources (e.g. blogs, sites, forums), without any dialogue initiation or prior processing of the content by governments. The content of the debates is detected, recovered and then through advanced techniques, citizens' opinions, arguments and recommendations on a specific policy are automatically extracted, in order to identify their feelings, to be analyzed and ultimately result in summarization and illustration of them [20-23].

The usage of a large number of opinions constitutes the concept of collective intelligence "...a form of universally distributed intelligence, constantly enhanced, coordinated in real-time, and resulting in the effective mobilization of skills" [24]. This is defined by the capability of a large network of connected people, the "crowd", to get involved and act successfully regarding planning and implementation of actions in order for problems to be solved. Thus, the concept and practice of "crowd sourcing" [25] arises, resulting in new innovative ideas coming from a large crowd [26, 27] and in co-production of services by governments and citizens [24]. In this frame, sentiment analysis has spread in almost every sector of development [28, 29], while opinion mining is a fundamental procedure of views detection which can be taken into consideration for the strategy planning of an organization. [30] state that the third generation of e-participation may alter the way governments face citizens and the way the latter are converted from "users" of government services to "makers" of policies and decisions.

The benefits of participatory policy making include fairer, evidence based and co-making policies, enhancement of transparency and accountability, citizens' democratic participation increase as a dimension of e-democracy and involvement of marginalized groups, as well as collective intelligence strengthening [1, 31-33]. Despite the benefits, challenges and risks are recorded such as resources required and legal restrictions, participators' expectations raise and possible conflicts that should be taken into consideration [33, 34].

Having recorded the benefits from participatory processes using social media in the frame of public policy, the purpose of this research is to investigate the potential use of social media in educational environments for the purpose of a participatory

decision-making process activation which broadens stakeholder involvement in educational policy-making.

The field of education constitutes a special case of public environment, due to its institutional role in persons' socialization and its key target which is not just knowledge transfer or production of new knowledge, but mainly the cultivation of active citizenship. In this field, in order for the above mentioned target to be fulfilled, dialogue must be cultivated, participation must be enforced and co-operation must be strengthened in the frame of a democratic society. Moreover, education is a system where several different components (e.g. adults and underage) with different roles (e.g. academic staff and students, leadership and staff) coexist, so it behooves joint decision-making ensuring a desired consensus on educational issues considering that educational structures are up to a degree self-governed. Furthermore, the field of education advances innovation, has the technologically required infrastructure for online consultations and its population consists of young people, thus completely familiar with ICT. Taking into consideration the above-mentioned characteristics of the educational settings as well as the benefits that come up for organizations when they use social media to gather people's views, a series of questions is set emphatically. Why social media usage in educational environments remains tightly focused on information, communication and teaching, as literature records? Wouldn't it be even in a micro scale of topics relevant to educational settings useful to activate a participatory decision-making and policy-making procedure using a tool such as this of social media?

In this frame the research questions are formed:

RQ1: What would be the effects of social media usage for the activation of participatory decision – making processes in educational settings?

RQ2: What are the benefits expected to come up by the usage of social media in consultations for decision – making in educational settings?

RQ3: What are the problems that may come up?

3. Research Subject and Methodological Approach

There is considerable diversity in countries' educational systems. Some are centralized, others partially decentralized and others completely decentralized, while in every country there are structures and responsibilities at various levels for different issues such as the management of financial and human resources, the design and specification of

educational policy aims and the evaluation of assets. Thus, in some countries, decisions on educational policy are made by the ministry, in others by the heads of autonomous regions, federal states, counties or municipalities, without excluding, on different issues, the engagement many of those agencies.

With reference to the Greek case, education operates within a centralized decision-making framework (top-down process) where political leadership is the dominant policy-maker who decides on the objectives, aims and functionality of the education system. At regional level, administrative control is exercised by the Regional Directorates of Education (RDE), reporting directly to the Minister of Education. RDE oversees the implementation of the national policy on education, ensures its adjustment to suit the specific requirements of the region and connects regional educational services with central education authorities. At local level, education policy is applied and specified by the Directorates of Primary Education (DPE) and Directorates of Secondary Education (DSE), which fall within the competence of the RDE. Higher Education Institutions (HEIs), on the other hand, are self-governed Legal Entities of Public Law supervised by the Ministry of Education.

The research plan followed consisted of two stages. In the first stage (preliminary research) the existing uses of social media in educational environments were recorded; websites initially and later social media accounts (Facebook and Twitter) of Secondary and Higher Education structures were accessed, exploring the content of posts within the academic year from September 2014 to August 2015, regarding consultations in particular. Facebook and Twitter were chosen because according to ALEXA classification in Greece, the first is in second position while the second is in tenth. Additionally, they both have textual character which helps interaction and development of dialogue between users.

The research was not addressed only to all Greek Universities, RDE and DSE, but also to similar structures abroad. Concerning HEIs abroad, using the "Academic Ranking of World Universities 2015" classification, the first hundred universities of the general classification were selected and of them the first in the ranking of the country located. As a result the web pages and profiles on Facebook and Twitter of sixteen Universities were accessed; Harvard University, University of Cambridge, Swiss Federal Institute of Technology Zurich, University of Tokyo, University of Toronto, University of Copenhagen, Pierre and Marie Curie University - Paris 6, The University of Melbourne, Heidelberg University, Karolinska Institute, Utrecht University, University

of Oslo, the Hebrew University of Jerusalem, University of Helsinki, Ghent University and Moscow State University. With reference to Secondary Education, there were selected administrative and organizational structures of education only in European countries, the same selected for Higher Education, namely England, Switzerland, Denmark, France, Germany, Sweden, the Netherlands, Norway, Finland, Belgium.

The second stage of the research (main research) was carried out by using a questionnaire. The aim of the questionnaire was to investigate the views and attitude of the leadership of Greek educational organizations towards the use of social media in participatory decision-making processes, focusing on a range of issues such as the ways of social media usage within the specific educational environments, the existing interaction processes between groups of the organizations, the view of leadership regarding the benefits or benefits to be of using social media in participatory decision-making processes. Potential problems and the attitude of leadership regarding expected effects from the use of social media in participatory decision-making processes in relation to the existing reality were investigated as well.

From the early stages of a research, researchers decide on a number of issues related to the population, the sample and its method of selection as well as the research tool to be used [35]. In this research and given the small size of the population in Greece (13 RDE, 58 DSE and 22 Universities) the entire population was included in the survey.

To conduct the research an individual questionnaire consisting of 17 questions was compiled, including dichotomous questions, questions of graded scale (Likert scale) and with multiple choices. The questionnaire was considered the most appropriate methodological tool, since respondents can express themselves easily, without the researcher being able to affect their answers. The questionnaire was tested for its form, language, clarity, difficulty and reliability in a pilot study that preceded the main sampling. The pilot study is an important step as it seeks to detect: a) if the questions are understood, b) whether each question provides the information for which it was designed and c) if it ensures the interest and cooperation of respondents [36]. After the above test, the questionnaire was corrected, received its final form and was implemented through google forms. The questionnaire link was incorporated in e-mails sent to 22 Universities, 13 RDE and 58 DSE. The processing of the questionnaires was conducted through SPSS21.

The two stages of the research are interrelated. At the first we tried to confirm that the consultation

procedures for participatory decision-making using social media do not constitute a practice in educational settings, as in other public environments. During the second stage, we attempted to reply to our research questions investigating if the process of offline participatory decision making is known and used at these settings, what are the current usages of social media, if the potential use of social media in these settings for the purpose of a participatory decision-making process would bring in benefits and problems and what those are.

4. Results

According to the findings of the first research stage and especially with reference to Greece, 2 out of 13 RDE and 8 out of 58 DSE, have Facebook profiles, while 5 DSE have Twitter accounts. Only 2 DSE post on social media regularly while in most cases the profiles are either inactive in recent years or the posts are rare. Concerning the 22 Universities, 7 of them have links on their websites for consultations, as set by the Ministry, while in 3 Universities announcements for such consultations were detected. It should be noted at this point that consultations on education issues are mainly implemented by the Greek Ministry through the “open.gov” platform. Out of the 22 Universities, nine have official profiles both on Facebook and Twitter, while one has an official page only on Facebook and one only Twitter account. Posts are related to announcements of general interest, events, awards and students or administrative issues.

The content of the posts (on website, FB and Twitter) of Universities abroad was similar to that of the Greek Universities, related to announcements of general interest, student affairs, events, workshops, seminars, conferences, training programs, awards, honors, innovations and scientific - research topics. With reference to European Secondary Education’s administrative and organizational structures, the posts were in the majority of cases of general interest, related to announcements of meetings, events, awards, topics of students’, parents’ and teachers’ interest and statistics. As in the Greek case, posts appear to be informative, while consultation is rare.

In the second stage of the research, of the 93 questionnaires sent, 66 in total were answered. The response rates of the leadership of the three educational structures in all cases exceeded 50%. Specifically, 7 (54%) out of the 13 RDE, 48 (83%) out of the 58 DSE and 11 (50%) out of the 22 Universities responded to the questionnaire.

Men dominate in positions of responsibility in Universities and RDE (72.7% and 85.7% respectively), while women are more in DSE (56.3%). The age groups are shown in the table 1.

Table 1. Age Groups

Age Group	University	RDE	DSE
30-39	18,2	14,3	14,6
40-49	27,3	14,3	41,7
50-59	45,5	71,4	37,5
>60	9,1	0	6,3

With the exception of two DSE (4%), all respondents stated that they use social media in their organization. With higher rates (from 71% to 100%) blogs were selected by all three structures, while Facebook and Twitter appeared with high utilization rates by RDE (86% and 43% respectively) and Universities (73% and 45% respectively). YouTube appeared with 40% and 45% in DSE and Universities respectively, which is justifiable since it is used as a means of educational projects promotion and teaching process support. LinkedIn, Instagram and Skype usage was also stated in smaller proportion and only by DSE and Universities.

Among the reasons for social media usage, promotion, publicity and announcements of general interest were stated by all educational structures ranging from 71% to 100%. The announcements of specific interest were recorded with maximum 82% in Universities on issues concerning students and 71% in RDE on issues of interest for teachers and other personnel. With the same rate social media appeared to be used for educational processes support by RDE, while 77% of the DSE use them for the presentation of students and teaching staff work. As means of communication between faculty and students and between groups within the educational organization, social media were stated with lower rates (maximum 55% as means of communication between faculty and students in Universities and minimum 15% between groups within the organization in DSE). According to the respondents social media are used in consultation procedures as well (29% in RDE, 4% in DSE and 36% in Universities). It is worth noting that the recorded reasons of social media usage are highly consistent with the findings of the first stage of the research and the literature, except the ones related to consultations.

Responding to the question “Whose opinion is taken into account during the decision-making process”, 2 DSE stated that they do not take into account anyone’s opinion, while everyone else take into account the opinion of faculty, administrative, technical and other staff, students, collective bodies, associations as well as public sector entities. A much

smaller percentage takes into account the opinion of private sector organizations. This finding shows that the practice of participatory decision-making is embedded in these educational settings. The topics for which opinion is asked are shown in figure 1.

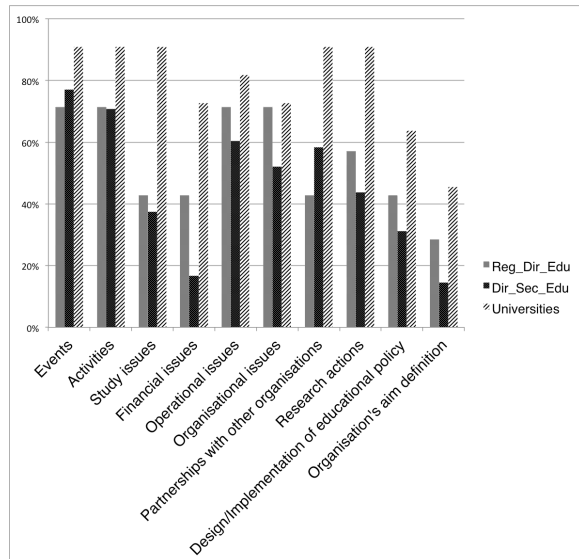


Figure 1. Topics for which stakeholders' opinion is asked

Particularly interesting is the next section of the questionnaire which reveals respondents' views related to the usefulness of social media usage in participatory decision-making process, the potential problems and the expected benefits. No respondent considers social media usage "not at all useful", while the rates are low for the answer "little useful". On the contrary, as "moderately useful" is considered by 29% of RDE, 21% of DSE and 27% of Universities. The rates are higher for the answers "a lot" and "very much" useful as shown in figure 2.

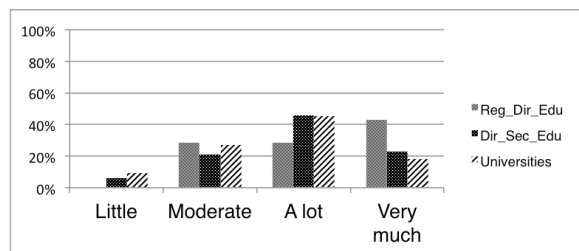


Figure 2. Leadership's views of social media usefulness in participatory decision-making process

The positive view is confirmed by the considered benefits as listed in figure 3, focusing on enhancing "e-dialogue" and "e-participation", on "e-democracy"

and "transparency", on "collective intelligence" development, "response time improvement and decision-making time reduction" as well as "high degree of satisfaction of stakeholders' needs". Only two respondents (one DSE and one University) do not consider any of the above as a benefit, while one DSE answered that he/she can't estimate the benefits.

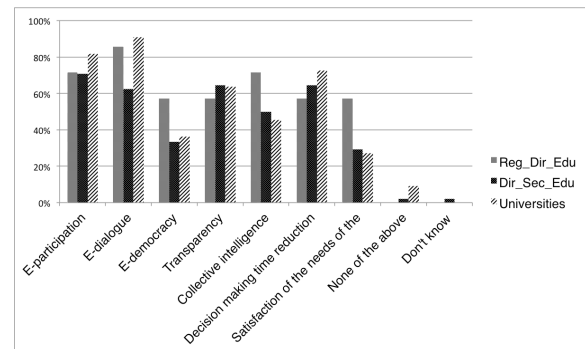


Figure 3. Benefits of social media usage in participatory decision-making process

On the other hand the lack of "financial resources" and "human resources", the "fear of public exposure of the view" and the "skepticism for data safety online" as well as "participation reluctance" appear as potential problems as shown in figure 4. It is striking, considering the fact that ICT have been implemented in educational settings, that the "usage difficulty" is considered potential problem by all structures with a share of about 29%, while "legal restrictions" considering the centralized Greek educational model are considered problem only by DSE and Universities (21% and 18% respectively).

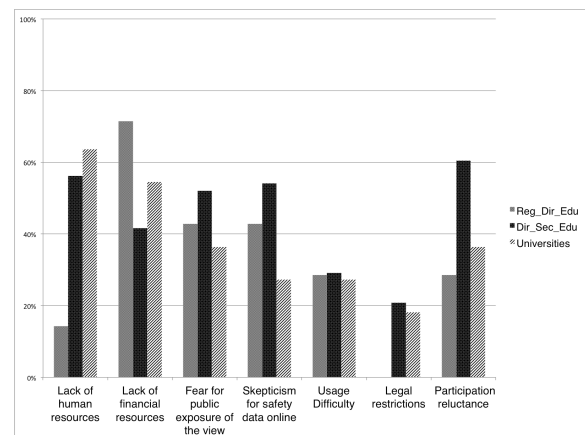


Figure 4. Problems of social media usage in participatory decision-making process

Since all respondents recorded at least one potential problem it becomes clear that despite the benefits identified by the use of social media in

participatory decision-making process in educational settings, this would not be without difficulties.

The last question of this section regards the assessment of social media usage effects in participatory decision-making. Positive view dominates (86% RDE, 67% DSE and 91% Universities), while only one answer from DSE focused on negative results and five in non-different from the existing ones. A response rate (14% RDE, 17% DSE and 9% Universities) record that effects cannot be estimated. Results are shown in figure 5.

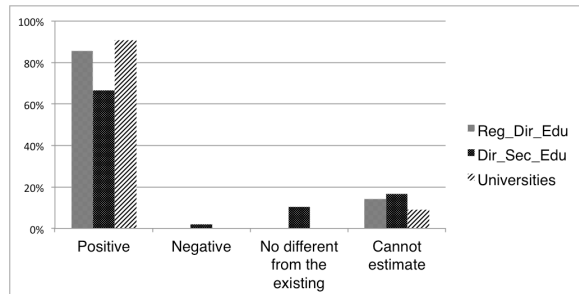


Fig 5. Leadership's assessment of social media usage effects in participatory decision-making process

5. Discussion

The objective of this research was to investigate the possibility of utilizing social media in educational environments in the context of participatory decision making processes, revealing the views of the educational leadership on expected benefits and upcoming problems and difficulties. The structures of the RDE, DSE and Universities, belonging in Greek Secondary and Tertiary Education respectively, were selected as example. For the purpose of the research, after having initially recorded the existing ways of social media usage by the structures mentioned above and by corresponding educational structures of European countries as well (first stage), a questionnaire was compiled, addressed to the Heads of Secondary Education structures and the Rectors of Greek Universities aiming to investigate their attitude towards a number of issues as already mentioned (second stage). The two stages research allowed a dual interpretive perspective.

The answers given concerning if and which social media are used and the reasons for which they are used are of interest and confirm the literature as well as the findings from the first stage of our research. Social media used in these educational settings as in public administration in general are identical to those displaying greater use in society [37], hence the most popular. The level of social media usage is

determined by three parameters, the presence of the organization in social media, citizens' involvement and networking with the public [38]. Promotion, publicity and information are the dominant reasons of social media utilization by all educational structures, which is consistent with the findings of the preliminary research and has been recorded as well with reference to higher education in America [11]. On the contrary, social media as consultation tool appear to be used in smaller percentages, according to the main research, but in greater extent compared to the findings of our preliminary research and the literature. The recorded cases of social media usage in consultation procedures throughout the preliminary research were related to consultation already released by the supervising organization, i.e. the Ministry.

Furthermore, according to the answers provided, the leadership of the educational structures takes into account the opinion of academic, administrative and technical staff, students, associations and collective bodies, public and private sector organizations when deciding on a number of issues. According to [39] a policy analysis framework in educational environments includes an axis regarding the analysis of the policy making process, in which two of the main factors are the decision-making process which should be characterized by consultation, participation and broad consensus and the tools to be used. In our case it is shown that the practice of participatory decision-making exists, facilitating in our opinion the implementation of social media usage in such procedures, considering that these settings already use social media for other purposes.

The last section of questions points out that the use of social media in participatory decision-making process is considered "a lot" and "very much" useful in most cases, with dominant anticipated benefits the increased interaction and the participation enhancement in decision making. In addition, e-democracy, transparency, collective intelligence development, improving response time and reducing the time needed for a decision to be made as well as the high degree of satisfaction of the stakeholders' needs were considered expected benefits.

The above findings show that the use of social media in the context of participatory decision making process in educational settings leads to the same benefits as those identified in the context of developing government policy, as recorded in literature. These benefits focus on better understanding of peoples' needs, desires and views, during a bottom-up public policy making process that not only identifies problems and needs but also sufficiently responds to them [20,23]. Furthermore, the deposit of opinions and ideas by citizens –in this

case students, staff, teachers- which result in creative and innovative response actions and policies [40,41] on several problems is identified as benefit. Beneficial is also the conversion of the initially “silent knowledge” which is diffused by a large number of citizens to code and explicit knowledge that can be used to design better policies [20,21].

In contrast to benefits there are problems that social media usage would encounter in participatory decision-making process within educational settings. Lack of human resources with appropriate expertise for the design, implementation and support of such an application and lack of financial resources are the major ones. Other problems stated are fear of public exposure of the view, skepticism about data security on the Internet, difficulty in use, participation reluctance and legal restrictions coming up due to the centralized educational Greek system. The leadership’s view of the three educational structures is consistent with literature references according to which the successful implementation of a multi-channel use of social media requires interventions in organizational, technological and human resources level [42] and in training and familiarity of the staff of organizations [43]. The issue of resources is confirmed as the most fundamental deterrent factor of social media usage in higher education in America [11]. Despite these problems, the majority of participants rated as positive social media usage in participatory decision-making referring to the effects in comparison to the present situation.

6. Conclusions

Social media are used in educational settings for a number of purposes, mainly didactic support, publicity and information provision, but minimum or not at all for consultations that lead to participatory decision-making. Nevertheless the concept and practice of participatory decision-making is present in the investigated educational settings, as it was revealed from our main research.

This case study research revealed educational leadership’s positive view on the effects of social media usage in participatory decision-making processes in comparison to the present situation (RQ1), showing as benefits the increased interaction and the participation enhancement as well as transparency, collective intelligence development, improving response time and high degree of satisfaction of the stakeholders’ needs (RQ2). These benefits are consistent with those already recorded for participatory policy making in other fields of the public sphere. On the other hand, with the exception

of lack of human and financial resources which have been recorded as problems in previous research, the fear of public exposure of the view, the skepticism about data security, the difficulty in use, the reluctance to participate and legal restrictions should be taken into consideration as well (RQ3).

The use of social media by the education structures will provide an opportunity to strengthen the participation of all stakeholders in a process of interaction, co-shaping opinions and making decisions in order for the objectives agreed to be achieved. Ideas and knowledge of stakeholders based on the needs that emerge in educational environments will allow heads to identify the cultural, social and economic changes in order to plan appropriate actions to address them [20]. Furthermore participation will bring a range of information and experiences in the process, in order to foster fairer and better proved policies, greater support by all stakeholders and thus more effective implementation of these policies within a democratically functioning educational framework. The information gathered should then be submitted to various types of advanced processing (e.g. analytics, opinion mining), while respecting the guidelines for privacy protection and data security as it happens in the case of government policy making [21]. Concluding, we state that this research referring to the Greek case shows that despite the fact that the legal framework is tight and the Greek educational system is centralized, enabling a participatory decision-making process through social media would be even on a micro scale of issues effective and efficient.

Further research is needed to investigate the attitude of the groups (teachers, parents, students, administrative and technical staff) involved in participatory decision-making processes in the Greek educational settings as well as a similar research within educational structures abroad.

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