



Social media for openness and accountability in the public sector: Cases in the Greek context



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ABSTRACT

This paper explores the use of government social media for openness and accountability. The extant literature has highlighted the benefits of social media use in this context to enhance citizen participation and engagement in decision-making and policy development, facilitate openness and transparency efforts, and reduce corruption. Yet, there are limited studies that discuss those properties of social media that can afford openness and accountability, and their implications for policy and practise. To address these gaps, a study is conducted in the Greek context using interviews with top managers, policy makers, and relevant stakeholders across five initiatives. We discuss distinct affordances for openness and accountability, and propose their inclusion as building blocks of the national ICT policy for openness and accountability. Finally, we provide the implications of the affordances lens for policy and practise, the limitations of the study and future research avenues.

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1. Introduction

Social media “employ mobile and web-based technologies to create highly interactive platforms via which individuals and communities share, co-create, discuss, and modify user-generated content” (Kietzmann et al., 2012). The particular attribute of social media which sets it apart from other existing forms of communication is its reliance on user-generated content, i.e. the content created and shared by end-users or the general public in real time using computers and mobile devices, allowing, thereby, ‘many-to-many’ communication (ibid). A survey by McKinsey suggests that 65% of companies are using Web 2.0 technologies (Bughin et al., 2010), whereas according to Forrester Research, the corporate spending on social media by the end of 2013 will reach \$4.6 billion (Young et al., 2008).

Research has illustrated the benefits of social media by the government for openness and transparency (Bertot, Jaeger, & Grimes, 2010; Bertot, Jaeger & Hansen, 2012; Bonson et al., 2012; Shuler et al., 2010) in the public sector when focusing on local government and municipalities (Bonson et al., 2012), citizen empowerment (Linders, 2012) and interaction with government (Leston-Bandeira & Bender, 2013), for crisis situations (Kavanaugh et al., 2012), and their use in the 2012 U.S. presidential elections (Hong & Nadler, 2012). However, research on the impact of social computing on public sector is still tentative and

exploratory (Ala-Mutka et al., 2013). Social media can support, according to Ellison & Hardey (2013), but not replace fixed but less agile institutions of representative democracy. In particular, a review of recent research—cited as well in the Electronic-Government Reference Library (EGRL) (EGRL, 2014—see Appendix, Tables 1A, 2A, and 3A) and recent work on the material aspects of social media (e.g. Leonardi et al., 2013; Treem & Leonardi, 2012) revealed that there is a need for a better understanding of a. properties of social media that afford openness and accountability; b. how these properties can be included in design strategies for social media applications to facilitate openness and accountability in governance; and c. the implications of these design strategies for the national policy and practise. In particular, there has not been relatively little research on the material properties of social media that grant different users with different possibilities of action, and how these properties facilitate openness and accountability in governance. To address this gap we follow the endorsement by Leonardi et al. (2013) that “a theoretically motivated investigation of social media technologies in the workplace is now an imperative for the fields of communication, management, and information systems” (p. 16) and in our case, governance, and hence our research questions are the following: which are the properties of social media that afford openness and accountability? Could these properties be conceptualised as building blocks of social media for openness and accountability? Could these properties be strategically designed in social media for openness and accountability?

To answer these questions our research follows the qualitative case study strategy in the Greek context, using semi-structured interviews with executives, public policy makers, and relevant stakeholders in

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Table 1
Social media and ICTs into e-government transparency initiatives to promote transparency, accountability, and collaborative e-government.

Social media and ICT initiatives (Bertot, Jaeger, & Grimes, 2012)	Benefit for users	Benefit for government
Establishment of channels for dissemination of information from government agencies to citizens or targeted information for different social groups, using in particular media that public prefers using.	•	
Enabling users to view, discuss, upload, distribute, and store digital content that expresses their views on governmental decisions.	•	
Allowing members of the public to track the progress of their own interactions with the government.	•	
Publicly and collectively monitoring government officials and policy makers to prevent corruption.		•
Limiting the direct contact between the public and government officials/agencies.		•
Exposing government processes, including bidding, contracting, and processing of forms.		•

both private (service providers) and public organisations across five initiatives. We draw from the literature on affordances (Barley et al., 2012; Leonardi, 2011) and we discuss different affordances of social media for openness and accountability. We conceptualise these affordances as the building blocks of social media based on the framework by Kietzmann et al. (2011; 2012)—that defines social media as a honeycomb of seven interacting elements. Finally, we discuss the implications of these affordances for policy and practise and we propose their inclusion as building blocks of the national ICT policy for openness and accountability.

The paper is structured as follows: after a brief review of the literature on social media for openness and accountability (Section 2), we discuss affordances (Sections 3) as an alternative lens to illustrate those “sociomaterial” properties of social media that facilitate openness and accountability. After presenting the methodology (Section 4), we illustrate this argument through a case study in Greece based on five initiatives (Section 5). We then discuss the findings in light of the extant literature and illustrate the implications for policy and practise (Section 6). The paper concludes (Section 7) by highlighting its contribution to literature and suggesting future research avenues.

2. Social media for openness and accountability

In this section we briefly review the extant literature on social media use for openness and accountability. We include (i) a review of the literature in the EGRL (EGRL, 2014), and (ii) review of the literature on ‘affordances’, which is the theoretical lens of this study.

The EGRL was created in 2005 and included the peer-reviewed, English language literature of the EGR domain. Since 2005, it is being recorded and semi-annually updated (Scholl, 2009, 2010; Scholl & Dwivendi, 2014). The purpose of EGRL is to be “to improve the quality of e-Government (EG) research and publication...” and “to provide authors and reviewers access to the body of current academic knowledge, provide keyword searches to better inform research, and provide accuracy and reliability in citations”(EGRL, 2014). EGRL has been used in other studies in e-government (Larsson & Grönlund, 2014; Scholl & Dwivendi, 2014) since it “represents a comprehensive account of the

domain’s English language-based body of peer-reviewed academic knowledge” (Scholl & Dwivendi, 2014). We searched within the database using the following search terms: ‘social media’, ‘openness’, ‘open government’, and ‘accountability’, since they are the keywords of this study. Our search yielded a total of 64 articles (39 for social media, 18 for openness and open government, and 7 for accountability). (Appendix—Tables 1A, 2A, 3A).

2.1. Defining social media

To define social media, Kietzmann et al. (2011; 2012) have proposed a framework (Fig. 1) that uses seven functional building blocks, that is, identity, conversations, sharing, presence, relationships, reputation, and groups.

Literature has underlined the role of social media use in government (please see Appendix, Tables 1A, 2A, and 3A). In particular, authors such as Picazo-Vela, Gutierrez-Martinez, and Luna-Reyes (2012) summarise the benefits of the use of social media in governments in “efficiency, user convenience, transparency, accountability, citizen involvement, and improved trust and democracy” (p. 505). Other authors, however (e.g., Abdelsalam et al., 2013; Bertot, Jaeger & Grimes, 2012; Bonson et al., 2012; Bekkers, Edwards & de Kool, 2013; Snead, 2013) note that despite the benefits social media bring to government, there are also significant challenges related to privacy, security, data management, accessibility, social inclusion, governance, information policy issues, and participation. Local governments use social media to enhance transparency and citizen empowerment (Linders, 2012), but corporate dialogue and e-participation are still in their infancy (Bonson et al., 2012). The majority of studies focus on the study of social media from a technical perspective despite the increasing importance of information technologies and policies for democratic practises (Criado, Sandoval-Almazan, & Gil-Garcia, 2013). Therefore, there is still research to be conducted on the use in social media in government. Oliveira and Welch (2013) are calling for more research attention to interactions amongst social media technology, task, and organisational context. In this paper, aiming to respond to the aforementioned calls, we focus on social media for openness and accountability, since they are regarded

Table 2
Affordances of social media for openness and accountability.

Affordance	Definition
Communicability	The ability of social media to provide a common language and syntax for communication.
Interactivity	The ability of social media to provide a space for interaction between government and citizens.
Visibility	The ability of social media to make the work of the government visible and transparent to the citizens.
Collaborative ability	The ability of social media to visualise the views of citizens and their needs and wants.
	The ability of social media to provide a space to government and citizens for collaboration and knowledge/information sharing which are necessary for the improvement of governmental decision and policy making.
Anonymity	The ability of social media to provide a space for especially citizens to express their opinion anonymously. This may create better possibilities for citizen participation.

Table 3
Affordance types as enablers (building blocks) of social media functionality types for openness and accountability.

Social media functionality types (Kietzmann et al., 2011; 2012)	Affordance type as enabler (building block) of functionality types					Case vignette number (1–5)
	Communicability	Visibility	Interactivity	Collaborative ability	Anonymity	
Identity		•	•		•	1–5
Conversations	•	•	•	•	•	1–5
Presence	•	•	•			1–5
Sharing	•	•	•	•	•	1–5
Relationships	•		•	•		1–5
Reputation	•	•	•	•	•	1–5
Groups	•	•	•	•	•	1, 2, 4, 5

as essential to “many functions of democracy” and society (Bertot, Jaeger & Hansen, 2012, p. 78). They, inter alia, prevent corruption, contribute to informed decision-making, accuracy of information provided to the citizens, and promote trust in government (Bertot, Jaeger & Hansen, 2012; Shuler et al., 2010).

2.2. Openness and accountability in government through social media

Openness means to disclose information in an accessible manner, and engage in “frank and honest discussion about processes, policies and decisions” (Bannister & Connolly, 2012, p. 23). Openness in government urges the implementation of three principles, namely participation, collaboration, and transparency (Chun & Luna-Reyes, 2013; Meijer et al., 2012). Participation means providing and increasing opportunities to the citizens to participate in policy making and provides the government and policy makers with the collective knowledge, ideas, and expertise—that is, crowdsourcing (Bertot, Jaeger, & Grimes, 2012), improving thereby the quality of governmental decision and policy making. Collaboration aims at establishing partnerships amongst public agencies, levels of government, private organisations, and individuals to improve governmental effectiveness (Bannister & Connolly, 2012).

Transparency has been characterised as the “literal value of accountability” (Bonson et al., 2012, p. 123). It refers to the fact that an organisation must explain or account for their actions (ibid), and ensures that the authoritative or coercive powers of the State are not abused or misused by the public servants (Aucoin & Heintzman, 2000; Bovens et al., 2008; Harrison and Sayogo, 2013). In government, transparency is essential for, inter alia, increasing democratic participation and trust, the establishment of anti-corruption laws and culture, accuracy of government information provided, and informed decision making (Bertot, Jaeger, & Hansen, 2012; Bertot, Jaeger, & Grimes, 2010; 2012; Shuler et al., 2010).

Governments have used ICT to increase openness and accountability whilst reducing corruption (Bertot, Jaeger, & Grimes, 2010; 2012; Bertot, Jaeger & Hansen, 2012; Bonson et al., 2012; Nam, 2012; Shuler et al., 2010). More recently in this attempt they have used in particular social media (Bertot, Jaeger and Grimes, 2010; Bertot, Jaeger, & Grimes, 2010) including, for instance, blogs, wikis, and social networking sites to disseminate information, keep and create records, and communicate with public and other agencies and organisations (Wyld, 2008). Scholl & Luna-Reyes (2011) investigate the pathways between open government, transparency, collaboration, and citizenparticipation initiatives in the US and in Mexico. They suggest that attention should be paid in the establishment and re-

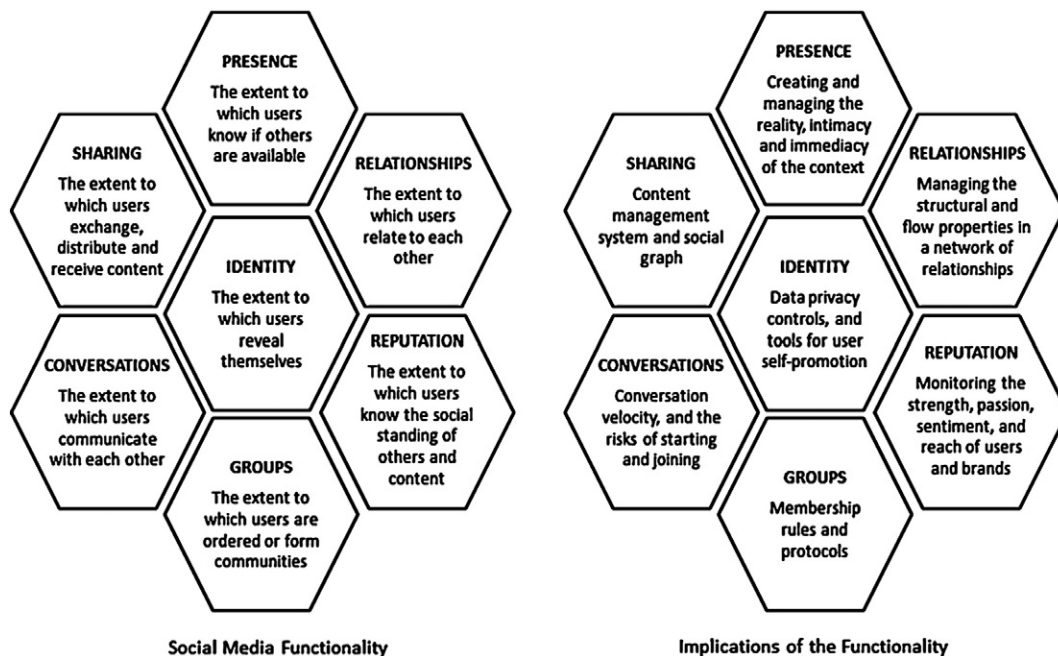


Fig. 1. The honeycomb of social media (Kietzmann et al., 2011; 2012).

establishment of power balances amongst government and major government-external players, and present a hypothesis to capture the nonlinear dynamics in the relationships of the major players involved. Recent research (Bertot, Jaeger, & Grimes, 2012) has focused on the ways governments build social media and ICTs into e-government transparency initiatives to promote transparency, accountability, and collaborative e-government (Table 1). On the other hand, research has also underlined the use of ICT for accountability, suggesting that although accountability levels may rise due to the use of ICT, the gap on accountability between different national bureaucracies often remains intact due to the fact that ICT may maintain or reinforce the existing practises (Wong & Welch, 2014). In the same vein, Petrakaki et al. (2008) argue that performance-monitoring technologies are a limited tool for ensuring accountability.

Most of the aforementioned research on openness and accountability (see Appendix Tables A2, A3) consists of conceptual papers, empirical descriptions of the benefits of social media, critical success factors, and narratives of users on the advantages and disadvantages of social media adoption. Lee and Kwak (2012) report that social media do not always deliver the intended outcomes because of organisational, technological, and financial challenges. Other authors (e.g., Bertot, Jaeger, & Grimes, 2012; Leonardi et al., 2013; Treem & Leonardi, 2012) claim that despite the implications of the adoption of social media by organisations are not well understood. They endorse researchers to study the ways social media come together with the social practises occurring in organisations. Aiming to address this gap, our research questions are the following: which are the properties of social media that afford openness and accountability? Could these properties be conceptualised as building blocks of social media for openness and accountability? Could these properties be strategically designed in social media for openness and accountability? To answer this question, we draw on the 'affordances' literature, which is discussed in the next section.

3. Affordances and social media

Orlikowski (2007), being unsatisfied with the way materiality is dealt with in studies of organisation and technology, have argued that there is a need to place materiality as an important constituent of everyday life (Latour, 2005; Leonardi & Barley, 2008; Leonardi et al., 2013). Therefore, it is important to place focus on the role of the materiality of technology and how it becomes imbricated in the process of organising and social practise in general (Leonardi, 2011; Leonardi et al., 2013). Hence, "sociomateriality" comes to the foreground as a term which denotes "that (1) all materiality is social in that it is created through social processes and it is interpreted and used in social contexts and (2) that all social action is possible because of some materiality" (Leonardi, 2012, p. 37). As individuals are entangled with technology in everyday life, their experience is constantly shaped and reshaped by sociomateriality (Orlikowski, 2007; Yoo, 2010). According to Leonardi (2012), sociomateriality reminds us that materiality is present in each phenomenon considered social, for instance on how strategies are created through the use of powerpoint (Kaplan, 2011) and how routines are performed (D'Adderio, 2011).

To study this entanglement of social and material properties, it is necessary to link human and material agencies as a "process of imbrication" where the distinction between human and material agencies is maintained whilst they act synergistically "to allow people to get their work done" (Leonardi, 2011, p. 152) sees technologies in terms of their *affordances* (Gibson, 1986; Hutchby, 2001): that is, "the properties which afford different possibilities of action based on the contexts in which they are used" (Leonardi, 2011, p. 153). According to Hutchby (2001), affordances are not exclusively human or material properties, but constituted in the relationships between people and the materiality of the artefacts with which they interact (the "social" and the "material"). They grant different possibilities for action since people grasp materiality differently, with different views and goals. Literature has used

affordances in different ways including, for instance, how objects provide different possibilities of action for people and animals (Gibson, 1986), in the sociology of science (Hutchby, 2001), in discussing the intersection of IT systems and organisation systems (Zammuto et al., 2007) and when studying the relationship between human and material agencies where people work with routines and technologies which are flexible (Barley et al., 2012). Therefore the theory of affordances suggests that social agency (human agency) and those different courses of action provided by the materiality of a technology (material agency) are interlocked in "sequences that produce the empirical phenomena we call "technologies," on the one hand, and "organisations," on the other" (Leonardi, 2012, p. 41).

In the social media field, the affordances lens has been used in order to study organisational behaviours that are the outcome of their use. Social media affords behaviours that were difficult or impossible to achieve before these new technologies entered the workplace (Leonardi et al., 2013; Treem & Leonardi, 2012). Treem & Leonardi (2012) argued that social media has altered organisational dynamics and has merged with communicative processes that occur within and constitute organisations. They have suggested the affordances of visibility, persistence, editability, and association when looking into the ways in which social media merge with organisational processes, the ways in which members use the material features of social media to accomplish their work, and the consequences of these affordances on socialisation, information sharing, and power processes in organisations. This paper extends the study by Treem and Leonardi, by using empirical data and the affordances lens to illustrate and discuss the properties that social media can afford for openness and accountability in government.

4. Research methodology

4.1. Research context

Greece was chosen as the research context of this study. Literature focusing on openness and accountability in the Greek context (Avgerou, 2002; Makrydimitris & Michalopoulos, 2000; Prasopoulou, 2011; Sotiropoulos, 1989) in particular observes that in Greece there is a limited presence of articulated policy objectives and standardised administrative and governance routines, which have transformed the public administration and policy into highly complex and opaque organisations that provide services of little value to citizens. There is an absence of openness and transparency that could enable instrumentalism and thus rationalise the actions of the civil servants, policy makers, and establish robust governance, policies, and procedures. "Procedural ambiguity and non-standard responses even to mundane, everyday issues" (Avgerou, 2002, p. 7) plague Greek public administration and policy making, and these problems have remained for more than fifty years (Makrydimitris & Michalopoulos, 2000; Papadopoulos et al., 2013; Prasopoulou, 2011; Sotiropoulos, 1989). Avgerou (2002) notes that the Greek context is infested by "rigid legalism as the underlying principle for accountability with clientelism as the rationale for selecting policies and objectives" (p. 6).

Although a developed country, Greece is now at the centre of a debt crisis, triggered inter alia by the global debt crisis of 2008–2009, the subsequent revelations regarding the falsification its statistical data and the subsequent increase in the Greek borrowing costs. Following attempts by the European Union (EU), the European Central Bank and the International Monetary Fund (IMF) to assist Greece financially based on the Greek compliance with far-reaching economic reforms, privatisation of governmental assets by the end of 2015, and implementation of structural reforms to improve competitiveness and promote innovation and growth. Additional round of measures in July 2011 and October 2011 and new austerity measures have been put into practise. Despite being the recipient of €240bn in EU and IMF rescue funds, even today Greece risks defaulting on its debt.

Considering the current debt crisis, the current issues of limited openness and accountability, and that Greece is lagging behind in a number of critical indicators (such as competitiveness, e-participation, and e-government) the remit of the EU is to reinforce investments from both public and private sectors particularly in ICT and lead initiatives on ICT projects. The dominant challenges to be met by these initiatives are to improve public services, strengthening integrity, openness, accountability, transparency, inclusivity, collaboration, as well as effectiveness and efficiency in managing public resources (Greek Ministry of Foreign Affairs (mfa), 2014). Particular emphasis is placed on improving the quality of public services through the active participation of citizens and their daily interaction with the public sector. Actions are therefore necessary to strengthen the role of users and to demonstrate the importance of cooperative schemes for the production of high quality services, access to and exploitation of open public data and the importance of transparency and the participation of citizens and businesses in developing a thoroughly planned policy. The already existing legislation, voted in May 2011 (<http://egovplan.gr>), introduced innovations including the right of citizens to deal with public services using ICT, and the government and policy makers to use ICT for promoting openness and accountability. This law specifies the conditions for implementing a framework for ICT-enabled governance in the public administration. As part of this law, the following five initiatives and relevant projects have been outlined and implemented by the Greek government in collaboration with private contractors.

4.1.1. Social media initiatives for openness and transparency in the Greek context

This study uses five initiatives for openness and transparency in the Greek context. The following vignettes are considered:

1. *The initiative “Δι@υγεια” (“Cl@rity”)*: It is the most important initiative of the Greek government transparency and openness programme, combining both the institutional framework (Law 3861/2010) and the technical means ([et.diavgeia.gov.gr](http://diavgeia.gov.gr)) to introduce the obligation to display all governmental decisions on the Internet from all public bodies by October 2010. The main objectives of the programme are to ensure the transparency of government action, and citizen participation in decision making in public administration, help to eliminate corruption through the publication of decisions on the internet; strengthen the right of citizen participation in the Information Society; and provide decisions in formats easily accessible and understood by the average citizen, regardless of their level of knowledge of the internal processes of public administration. The decisions of the public entities (e.g., ministries etc.) cannot be put into practise if they are not uploaded on the Cl@rity website. Each governmental decision is digitally signed and assigned a transaction unique number automatically by the system. The users can therefore be informed about the Governmental decisions and engage in a public dialogue with the Government.
2. *The initiative “Open online consultation and staffing invitation” (www.opengov.gr)*: It combines political and technological features and is based on a framework of political principles such as transparency, consultation, accountability and decentralisation. At the heart of open government is the need of people for information, meritocracy and participation in the formulation of decisions. Calls for expressions of interest and the public consultation of legislative and regulatory acts are the basic open government actions, which are posted on opengov.gr. The initiative includes the creation of a social networking tool for e-Government services related to issues of clarity, openness, and citizen participation in decision making. Through the creation of the tool and creation of open data and services that allow further use and processing of the data and search for specific transactions through a series of parameters, the initiative achieves open and free access to public information; and this is invaluable for the effective participation of citizens in the social, economic,

and political life and in the information society. The tool is based on the Open Data API and provides the ability to raise decisions and administrative acts that have been posted under the Cl@rity using open standards. Any citizen can use and reproduce these data without any limitation of liability beyond reference to the source and the explicit differentiation of the secondary material that might be generated from the original material.

3. *The initiative “Geodata” (<http://www.opengeodata.gr/>)*: It is an initiative for service imaging to provide geospatial data to the public. It started its operation in August 2010, and was one of the eight public services worldwide to make open public information available. During its operation, it has resulted in direct benefits of around 20 m euros for the public administration (merely due to data reuse) and has been exploited by hundreds of media, engineers and researchers. The initiative allows citizens to create content related to maps through, for instance, adding the name of a street that does not exist, or filling out a new path. It enables, *inter alia*: i) the transparency and accountability of governmental decisions/approvals by all citizens who have access to such open data; and ii) the protection of the environment: comparing aerial photographs and satellite images of Greece with other geospatial data (e.g., the forested areas) every citizen can identify possible illegal acts and indicate those to the State.
4. *The initiative “Startup Greece”*: It is an initiative for youth entrepreneurship. Through *Startup Greece* every citizen, organisation, business, association, research institute, social and economic entity can add ideas, knowledge and experience to create an online entrepreneurship community. *Startup Greece* uses social media tools to i) bring together people, ideas, businesses, universities, institutions, to enable collaborations and projects to take place; ii) enable users to create and exchange content related to the start of business in Greece (incentives, financing, legal framework, surveys) and hence knowledge to be produced collaboratively; and iii) promote dialogue and accountability through the provision of open data concerning the current legal framework to all citizens.
5. *The initiative “Governmental portal Hermes”*: The Government Gateway is the Government Portal of the Greek Public Administration. It provides information and secure online services to citizens and businesses. The main purpose is the comprehensive collection and organisation of information used by the entire Public Administration to be available on the Internet so that citizens and businesses have access to reliable information concerning their transactions and interaction with the Public Administration. The portal provides full support for interoperability amongst the numerous information systems of the Public Administration and electronic transactions. The portal includes fora in which citizens can interact with the Public Administration and create content relevant to the services provided or needed, as well as desired functionalities and applications.

4.2. Data collection and analysis

This paper follows the qualitative tradition (Lincoln & Guba, 1985; Silverman, 2001; Yin, 2003) and uses illustrations from the five aforementioned initiatives (case vignettes) for openness and accountability. Such a use of case vignettes is reported for instance in Franco (2013) and Merali (2000), and coincides with Eisenhardt and Graebner (2007). We selected the vignettes that would provide, through interviewing the relevant stakeholders, appropriate illustrations of social media affordances for openness and accountability. The qualitative approach was chosen since, in line with the literature on affordances (Leonardi, 2011), the aim was to acquire an in-depth understanding of the possibilities for action granted through the design and use of social media (Lincoln & Guba, 1985; Silverman, 2001; Yin, 2003).

Data were collected in two stages: in the first stage, we interviewed 15 private sector top executives (service providers) and public policy makers (government) across the five vignettes (Appendix—Table 4A). The private organisations were related to the IT sector. They are classified amongst the top 10 IT users/developers in the country. The public sector interviewees¹ are members of the top ranks of the Greek government. They are the intended actors for policy making. This was to get and in-depth understanding of the current climate and use of social media in government. The second step involved 35 in-depth interviews with the implementation teams across the five initiatives (Appendix—Table 5A). At the second stage, we aimed at obtaining an in-depth view of how social media applications were incorporated within the initiatives and how the material (social media platform) is created through social processes (implementation) and how social action (interaction through social media and the achievement of accountability and openness) is possible because of the social media materiality (Leonardi, 2012).

The interviews were semi-structured and each lasted for 45 min on average, and included questions about the necessity of implementing social media as part of the ICT-enabled governance for openness and accountability. Questions were also asked about specific strategies that participants follow when implementing social media. The emerging data determined the direction and length of the interviews. We followed Adams et al. (2007) and Guthrie (2010) in that we tested and piloted the interview guide before data collection, and the interview questions were formulated in a way that would permit comparisons across the interviews. Before the interviews, a list of potential interview questions was sent to the interviewees via email for informative reasons. Interviews took place at the informants' offices and were conducted in Greek in order not to affect the participants' ability to communicate effectively (Bryman & Bell, 2011). In the case where the participants did not agree to be tape-recorded, notes were kept (in Greek) which reflected their opinions. Strict confidentiality regarding the names of organisations and participants was applied. The interviews were audio-recorded and transcribed verbatim in Greek and, after the analysis, their significant quotes were translated into English by the researchers.

Data were viewed “not as objective evidence supporting or falsifying an assertion but as texts and text analogues, whose meanings, when read hermeneutically, can go beyond the original intentions and meanings attributed by their sources” (Sarker et al., 2006, p. 57). This approach follows Boland (1985) and more recent studies (e.g., Baptista, Newell, & Currie, 2010), which study the embedding of technology in work practises and the ways it is adapted by employees in an organisation. Our approach also follows Eisenhardt (1989) in that the affordances of the social media for openness and accountability were built inductively based on our data. Transcribed data were assigned broad initial codes that were refined as the research progressed. Emergent themes were identified through reviewing interview data, and supplementary codes emerged during this subsequent analysis. The emerging themes were further refined as the process continued, thus building the analysis incrementally (Appendix—Table 6A).

5. Findings: the properties of social media that afford openness and accountability

This section reports on the results from the interviews with top managers, policy makers, and teams. Based on the findings from the interviews across the five vignettes, we discuss the distinct affordances of

social media for openness and accountability (Table 2). In the following subsections, we describe these affordances and provide illustrative quotes from the interviews.

5.1. Which are the properties of social media that afford openness and accountability?

5.1.1. Communicability and interactivity

The affordance of communicability refers to the ability of social media to provide a common ‘language’ between citizens and the government. The common language may refer to common ways of sharing or creating content (e.g., text, pictures, video):

“I am using social media myself as a way of communicating with citizens. It is a means through which we can communicate what we think in the same sort of ways—I mean different types of information provided by citizens and myself. Now in terms of applying social media to Government, I think a means like social media can enable us and citizens to communicate rapidly and directly using same language and in this way participatory democracy is enhanced.” (Highest-echelon policy maker, Organization F)

The affordance of interactivity refers to the ability of the government through social media to provide a space through which relevant parties talk to each other, collaborate, generate new ideas and promote direct democracy:

“The use of social media is for us is a way of interacting with citizens... real time maybe or we think about what and how to reply. And all is on the web. It is a tool to service co-creation...for us to use is easy...looks like a word document with editing features... as one goes from the project level to the application level and manages the service, they will have to work through social media to talk about collaborative design and implementation of e-government services...and we can locate this knowledge... you can go back to posts or discussions to track down exactly what we are told to do by citizens, and what we have promised to do.” (CEO, Organisation A)

For other CEOs, the use of social media would mean that they offer additional services—additional value, that is—without extreme costs and a holistic package for the provision of e-government services, establishing longer relationships with government:

“For us the benefit is that we do not have to make huge investments to provide such tools through for instance a governmental portal. Since those applications will need to have low requirements to run, we do not need to make huge investments on hardware or software applications, or managing skills.” (CEO, Organisation B)

Finally, from the perspective of Organisation R:

“If you were to ask me what is the most important element of OpenGov, I would say of course the social media part...why? Well it is obvious. Social media is used by millions in the world, thousands in Greece, so why not getting their voices heard, why not making them to interact and communicate, and participate in decisions?” (Chief Information Officer, Organisation R)

5.2. Visibility

From our interviews across the five vignettes and projects within the Greek public administration, it is apparent that the use of social media echoes the attempt of the Government to communicate with the citizens through a technological platform which makes its work visible

¹ The Greek public high-echelon employees take the strategic decisions for such initiatives in consultation with the private companies' CEOs and top managers who provide the support and various resources.

and subject to direct scrutiny by citizens. Visibility, however, may have different meaning for citizens and involves the visualisation of their views, needs, and wants. Furthermore, social media enable the high-echelon public employees, policy makers, and politicians to interact with citizens and service providers to share views, reveal their agendas for public sector reform and co-create new applications and services or improve the already existing ones (e.g., governmental portals).

“I think such tools can be used in consultations on public projects and many of the applications in the Open Governance and Clarity to take the form of social media. For us then, social media is vital to securing citizen participation and consultation on projects. It is also a way to get their views when designing services. For us, by getting the citizens involved, we become more accountable and clear in what we will do in terms of policy and what we will not... and there is Europe 2020—social media needs to be in the agenda.” (Highest-echelon policy maker, Organisation F)

Visibility was what stakeholders from Organisation J had in mind when they implemented Hermes and Cl@rity:

“We used social media applications because we wanted to make sure that our work in public sector reform through Hermes, Cl@rity and all other projects, is actually seen by citizens, and this is very important.” (Higher echelon public employee, Organization J)

5.3. Collaborative ability

The interviewees underlined the importance of collaboration through building appropriate software that enables people to contribute content. This is particularly important in the case of contractors, since users can suggest improvements in the already existing applications and initiatives:

“Social media use in e-government is a must...It is high time to get the benefits offered. Social media needs always to be associated to e-government. And for us that we develop enterprise application software, it is a way of getting in touch with our customers, the citizens, and we can get their views and comments immediately, or respond to their views and comments. We can track down what they need or go back to see what they said they want...Nothing is as interactive and user-friendly...IT and social media can do miracles these days!” (CEO, Organisation M)

For the government, social media tools provide a platform through which citizens and government collaborate in terms of consultation seeking from the public on new laws and actions:

“This may be related to the debate on a new law, a ministerial decision, or even a potential e-government project...e.g. when it was announced that the State will issue electronic identities for the citizen (Citizenship card), public consultation took place, and through online dialogue [online consultation] demonstrated the public opposition to the adoption of citizenship cards. The State took into account the outcome of the electronic dialogue and re-evaluated the project of creating the citizen card.” (High-echelon public employee, Organization I)

Social media tools are also particularly useful for crowdsourcing purposes. An interviewee highlighted their importance as a tool needed (in *Startup Greece* initiative) when new ideas, knowledge, and relevant information are shared across the members of a community to facilitate youth entrepreneurship:

“The use of social media and networking tools for gathering ideas and knowledge is our target. And this is not only in terms of Startup Greece, but also as we go from a project to n applications, so you have to work through social media to talk about collaborative design and implementation of eGovernment services. I think this is obvious... does not need much thought!” (High-echelon public employee, Organization H)

This was also underlined from interviewees in Organisation J:

“For us that we have participated in StartUp Greece, the importance of social media is tremendous. In the current situation—that is, financial crisis—we need new ideas and knowledge sharing, and social media is the key to this. We can build on top of these applications crowdsourcing and other important tools to promote entrepreneurship and growth” (Project Manager, Organisation J)

5.4. Anonymity

The majority of interviewees underlined the importance of providing an anonymous space to citizens to express their opinions and feedback on those applications already provided by the projects and those to be provided:

“Cl@rity and Opengov are one of the largest, if not the largest projects in Greece in terms of public sector reform. To make citizens participate in decision making, we had to make sure that their opinion is heard, but their profile is not” (Scientific Director, Organisation O)

More importantly, anonymity gives citizens the opportunity to express their opinions on public consultations (e.g. new laws) without revealing their identity, and this may bring impunity:

“We need to make sure we secure anonymity, otherwise we will be accused of spying on citizens. The soil is mature and conditions are critical. There is no room for delay. However, we should not forget that if we have no control about what content citizens create, we may end up in impunity” (High-echelon public employee, Organization G)

Being a direct medium for communication, sharing, and co-creation, social media makes the Government accountable for those projects, applications, and innovations, as well as for listening to the needs and wants of the public. In the case of citizens, participation can be anonymous:

“It is good to get their [citizens'] anonymised views and that we communicate our views directly—the medium of social media is fantastic in this sense...it can be or not real-time tool, and provides a fantastic user-friendly environment. Political decisions will be taken jointly with citizens. The momentum is upon us and we need to respond to the citizen needs for participatory governance, and to our need for transparency and participatory decision-making. We need to collaborate... the soil is mature and conditions are critical.” (High-echelon employee, Organisation G)

This is particularly important in light of the Greek current crisis, since it acts as an anti-corruption mechanism and creates transparency in governmental policy and decision making. The CEO of Organisation C illustrated the use of social media for the government, in the current crisis:

“There is a greater need to consider such alternatives in times of crisis. In times of crisis we need more transparency and meritocracy. People do not have trust in what the government is doing and how it is doing it...this trust was lost since 2008...the government needs tools to visualise the citizen's participation and co-creation of

services...needs to show that corruption is over. People need to be more involved in government” (CEO, Organisation C)

6. Discussion

This paper set out to explore the different affordances provided by social media for openness and accountability (Bertot, Jaeger, & Grimes, 2010; Bertot, Jaeger & Hansen, 2012; Bonson et al., 2012; Shuler et al., 2010). It addressed the endorsement by Criado et al. (2013) and Oliveira and Welch (2013) for more attention amongst social media technologies, tasks, and the organisational context. Furthermore, it addressed the endorsement by authors focusing on the sociomaterial properties of social media (e.g., Leonardi et al., 2013; Treem & Leonardi, 2012) a better understanding of the social media affordances, their inclusion in design strategies for social media applications for openness and accountability in governance, and the implications of these design strategies for the national policy and practise. Across the five case vignettes it was stated the ability of social media to facilitate communication between government and citizens (although sometimes one-way through the publication of information on behalf of the government) and visibility expressed through visualising the views of citizens, as well as making visible the work of the government. Additionally, social media provides a space to government and citizens to interact and collaborate, enabling thereby information and knowledge exchange, ideas on planning, and further information and knowledge sharing across citizens for entrepreneurial activities; this is in accordance with the extant literature stating the importance of social media for citizen empowerment (Linders, 2012) and interaction with government (Leston-Bandeira & Bender, 2013). Anonymity was also an affordance, since social media can act as a space for citizens to have a say and keep their identity anonymous. For government, however, this is not the case; anonymity had to be avoided in order to enhance visibility and transparency in governance and policy and decision-making. The interviewees stated the importance of these affordances for achieving openness and accountability (please see Appendix, Tables 4A, 5A, and 6A).

The aforementioned affordances differ from those discussed by Treem and Leonardi (2012), in that a. the affordances of the present study were inductively produced through analysing the data from the five vignettes; b. The affordances proposed by Treem and Leonardi and in particular “association,” “editability,” and “persistence (reviewability)” were not explicitly referred to in the vignettes. However, the affordances by Treem and Leonardi could enable communicability, interactivity, and collaborative activity –that is, the affordances suggested in this study. For instance, “association” refers to the ability of social media to enable individuals to associate with other individuals or content to support social connection, access to relevant information and emergent connection. In our study “communicability,” “interactivity,” and “collaborative activity” are facilitated through associating with other individuals and content. “Editability” and “reviewability” refer to the ability of social media to enable users to craft and re-craft a communicative act before viewed by others, as well as this act to remain in its original form after the actor using it has finished his/her presentation (Treem & Leonardi, 2012, p. 155). Therefore, they enable social media enabled communication/interaction/collaboration acts to be accessible in the same form as their original displays. Finally, in our study the affordance of anonymity was important, since social media provided provide a space for especially citizens to express their opinion anonymously. In our findings, hence, the social media did not lead to “leads to less unique final self-designs, lower satisfaction with self-designed products, lower product usage frequency” (Hildebrand et al., 2013, p.14) but, through their affordances, contributed to the establishment of a more direct relationship between citizens and government.

Can these affordances be conceptualised as building blocks of social media for openness and accountability? To answer this question

we follow the framework by Kietzmann et al. (2011; 2012) as follows (Table 3):

- *Identity*: the extent to which users reveal themselves; this cell would be two-dimensional. Identity is always revealed in the case of Government to secure transparency and openness, whilst it is concealed in the case of citizens to secure anonymity. Therefore, the building blocks of this cell are visibility, interactivity, and anonymity;
- *Conversations*: the extent to which users communicate with each other. This communication is secured through the affordances of communicability, visibility, interactivity, collaborative ability, and anonymity;
- *Presence*: the extent to which users know if others are accessible for interaction. As stated from our findings, the State should be accessible by social media and respond to citizens' needs and demands. Presence can be built through communicability, visibility, and interactivity.
- *Sharing*: the extent to which users exchange, distribute, and receive content—is built through communicability, visibility, interactivity, collaborative ability, and anonymity.
- *Relationships*: the ability of social media to enable users to relate to each other. This is achieved whilst communicating, interacting and potentially collaborating.
- *Reputation*: how trust between government and citizens is developed, assessed and maintained (Dellarocas, 2005; Kietzmann et al., 2011, 2012; Pavlou & Gefen 2004). Trust can be developed through communicability, visibility, interactivity and collaborative ability.
- *Groups*: the extents to which users are able to form communities in order to communicate, interact, and collaborate within and outside the community. The affordances are communicability, visibility, interactivity, collaborative ability, and anonymity.

The aforementioned affordances unravel the socio-material nature that is, “social interactions,” and their interactions with features of the technology (social media as a platform/interface facilitating communication)—that is, “material interactions” (Gibson, 1986; Hutchby, 2001). The interactions move beyond of either the social or the material (technological) and talks about both as being constitutively entangled and cannot be viewed in isolation; they shape “the contours and possibilities of everyday organising” (Orlikowski & Scott, 2008, p. 463), constituting a sociomaterial view of social media in e-government. A sociomaterial view is particularly important when designing a technology (social media), since it entails considering the material features that should be used to enable new ways of communication and interaction (social features). By understanding social media in e-government as an entanglement of the social and material and how they become interwoven, we pay attention to the reasons why people resist or embrace a new technology, which is important for theory and practise (Leonardi, 2011; 2012; Lee & Kwak, 2012; Leonardi & Barley, 2010). The affordances' lens enables a better understanding of the challenges related to social media governance, information policy issues, and citizen participation (Abdelsalam et al., 2013; Bannister & Connolly, 2012; Bertot, Jaeger, & Grimes, 2012; Bonson et al., 2012; Bekkers, Edwards, & de Kool, 2013; Snead, 2013), leading to transparency and citizen empowerment (Linders, 2012), and e-participation (Bonson et al., 2012).

Our study provides a sociomaterial view (Orlikowski & Scott, 2008; Orlikowski, 2007; 2009) into the practises of social media in e-government. In particular, it contributes to the literature on the use of social media for openness and accountability (Bertot, Jaeger, & Grimes, 2010; 2012; Bertot, Jaeger, & Hansen, 2012; Bonson et al., 2012; Shuler et al., 2010). It differs from research on co-creation of services (Linders, 2012) for transparency and anticorruption (Bertot, Jaeger, & Grimes, 2010) and also of those studies discussing risks, benefits, and strategic alternatives of social media (Picazo-Vela et al., 2012). The

contribution of the study lies in a.) discussing the affordances that provide possibilities for action and the implications of these actions for openness and accountability through the use of social media; and b.) conceptualising these affordances as building blocks of social media functionality types for openness and accountability using the honeycomb model of Kietzmann et al. (2011, 2012)). Our study differs from Treem and Leonardi (2012) and Leonardi, Huysman, & Steinfield, (2013) in that we provide a practical study based on interviews with top managers and policy makers on the use of social media in e-government (Chun & Luna-Reyes, 2013; Picazo-Vela et al., 2012), and not in organisations.

Based on these affordances and the honeycomb model, we propose a strategic design of social media for openness and accountability based on the inclusion of these affordances and social media functionality cells (Table 2) in the strategic design of social media for openness and accountability in the public sector. These affordances can shift communication barriers and boundaries (Barley et al., 2012; Carlile, 2002) and facilitate collaboration, participation, transparency and openness in the ways governance is taking place and decisions and policies are produced. Transparency can bring accountability and in this way social media can be the means through which information provision, debate, and responsibility is facilitated, and can thus contribute towards blame attribution. The inclusion of these affordances in the design of social media is important especially in the current period of debt crisis: it allows a 'win-win' situation, where governance is transparent and open, and citizens can express their views, oppose, agree, suggest, co-create, and participate in the governance of the State, and establish direct democracy.

6.1. Implications for policy and practise

Our study contributes to public policy makers and top managers, the intended actors of this study. For public policy makers there is an urgent need to rethink the current mode of governance. A paradigm shift would need to take place, in which the current highly complex and opaque system of Governance is replaced by an alternative technology-/social media-driven system. This will allow communication, interaction, collaboration, participation in decision-making, thereby facilitating openness and transparency, rationalising the actions of civil servants and policy makers, and promoting direct democracy (Avgerou, 2002; Makrydimitris & Michalopoulos, 2000; Papadopoulos et al., 2013; Prasopoulou, 2011; Sotiropoulos, 1989). The proposed mode of Governance would need to a.) include the building blocks of social media for openness and accountability and their corresponding affordances; and b.) 'combine' such a system with the inclusion of Open Innovation in the country's national innovation system which can be achieved through collaboration, interaction, and communication (Papadopoulos et al., 2013). Governments could also use these affordances and functionalities as readiness criteria, to examine and evaluate the impact of the use of social media for openness and transparency. In this vein, organisational efficiency and innovation will be leveraged, and the repercussions of the debt crisis will be addressed, and both economy and society will be positively impacted (Papadopoulos et al., 2013; Spaeth et al., 2010). The suggested model of Governance will be implemented only if the relevant stakeholders are committed to secure and sustain these interactions and collaboration. We acknowledge that these actors may have different priorities and agendas that may sometimes be contradictory, but it is through social media that a negotiation space is provided, through which discussion and agendas' adjustments may take place to accommodate each other needs. Hence, social media can be the means to assist in the governmental policies being crafted and re-crafted through direct citizen involvement, with limited implementation risk, as our findings depict.

For top managers and high-echelon public servants and employees, the study highlights the importance of establishing open and transparent processes for implementing projects that reflect governmental policies, laws and actions. This can be done through sharing knowledge

and listening to the needs and wants of citizens, improving for instance the social media applications offered (Spaeth et al., 2010). However, as Papadopoulos et al. (2013) note, this requires change in mind-sets, which cannot be imposed, since misjudging the amount of time required may lead to failure.

Therefore, our study contributes to the literature examining governance strategies for public consultation and interaction for public policy adoption (Kuhlmann & Edler, 2003; Moon & Bretschneider, 1997) since it a) suggests the inclusion of social media and related affordances to create facilitating conditions for policy consultation and diffusion (Doloreux, 2002; Hadjimanolis & Dickson, 2001; Kang et al., 2013); and b) enhances the role of citizens from passive adopters of policies, actions, and laws to equal contributors in their formation. This is particularly important in the case of Greece at the current financial situation, since it allows discussion on policies through the participation of citizens in decision-making, for instance, and hence permits the "effective policy implementation particularly for the non-preferred policies" (Kang et al., 2013, p. 25). However, we need to note that Kang refers to diffusion, which needs to take place under government enforcement. Our findings do not reveal the use of social media tools for enforcement of governmental policies; rather, they are the means through which governmental policies may be crafted and re-crafted through direct citizen involvement—what Czarniawska (2004) calls 'translation/transformation' of ideas, and in our case, actions, laws, and policies. As Hadjimanolis & Dickson (2001) note, "it is even not just a matter of the capability or intentions of a government to apply some appropriate or even grandiose plans. It must be viewed as a comprehensive and iterative process" (p. 816), and social media may serve to this purpose.

7. Conclusion

This paper studied the use of social media for openness and accountability in the public sector, using five case vignettes in the Greek context. Our study contributes to the literature on the use of social media for openness and accountability in the public sector, discussing the affordances of social media for openness and accountability and conceptualises the affordances as building blocks of social media functionality types for openness and accountability using the model of Kietzmann et al. (2011; 2012). Furthermore, the paper contributes to the literature examining governance strategies for public consultation and interaction for public policy making and implementation, suggesting the inclusion of both affordances and social media functionalities in the strategic design of social media for openness and accountability in the public sector; it also adds to the debate on transforming the role of citizen from a passive adopter to a co-creator of policies.

A limitation of this study lies in that based on the tenets of qualitative research (Lincoln & Guba, 1985), the findings of the study cannot be generalised. But they can inform theory since we produce new insights about a phenomenon and on the plausibility of the inductive reasoning used in analysing the case study findings and drawing conclusions from them (*ibid*).

The arguments of this study could be developed and extended through further research. This encouragement for more testing of our knowledge in this context has the potential to build robust theories (Corley & Gioia, 2011). In particular, a future study could involve the longitudinal study of the long-term impact of social media in the Greek public sector or other economies that are not in crisis. Therefore, useful design strategies could be inferred and these cross-country comparisons would test the validity of our results. From a methodological point of view, future studies could enrich existing data by interviewing or surveying citizens. In this way a more holistic approach to the perspective of the use of social media will be provided. It is within our intentions to provide both academics and practitioners with food-for-thought to improve the effectiveness of the social media use for openness and accountability.

Appendix A

Table 1A

Review of the literature in EGRL (EGRL, 2014) for 'Social media' and 'E-government'.

Title	Reference	Dominant themes
Government Information Quarterly	Abdelsalam et al. (2013)	–Facebook, Twitter, and YouTube are top social media applications in Egyptian government websites. –Effectiveness of social media websites: to post information, very little two-way interaction between citizens and government.
	Bekkers et al. (2013)	–Social media in Egypt is not in line with NPS. –Social media monitoring for strategic control and responsiveness. –Social media monitoring poses normative questions in terms of transparency, accountability and privacy. –Policy departments are more strongly orientated towards monitoring. Policy implementation is more inclined to progress to webcare. –Argues for more transparency on social media monitoring.
	Bertot, Jaeger & Hansen (2012)	Government agencies are increasingly using social media to connect with those they serve. –Interacting via social media introduces challenges related to privacy, security, data management, accessibility, social inclusion, governance, and other information policy issues.
	Bonsón et al. (2012)	–Overall view about the use of Web 2.0 and social media tools in EU local governments in order to determine –Local governments use social media to increase transparency and e-participation, and a real corporate dialogue. –Local governments use social media to enhance transparency but, corporate dialogue and e-participation are still in their infancy at the local level.
	Criado et al. (2013)	–Most papers focus on technical aspects of social media –Underlines the role of social media in government information flows and the availability of government information; the use of information technology to create and provide innovative government services; the impact of information technology on the relationships between the governed and those governing; and the increasing importance of information policies and information technologies for democratic practises.
	Hong (2013)	–Social media adoption by politicians has yielded increased donations from outside their constituencies but little from within their own constituencies –Extreme ideologies can be better promoted by social media –The political use of social media may yield a more unequal distribution of financial resources amongst candidates.
	Hong & Nadler (2012)	–Discusses the potential impact of social media on the 2012 U.S. presidential elections, by testing the association between "candidate salience" and the candidates' level of engagement in online social media sphere. –Examines whether social media could change the dynamics of U.S. election campaigns. –Social media does substantially expand the possible modes and methods of election campaigning, high levels of social media activity on the part of presidential candidates have, as of yet, resulted in minimal effects on the amount of public attention they receive online.
	Kavanaugh et al. (2012)	–Understanding the use of social media by government officials as well as community organisations, businesses, and the public. –Use of social media for managing crisis situations, classified from routine (e.g., traffic, weather crises) to critical (e.g., earthquakes, floods).
	Lee & Kwak (2012)	–Social media for open government initiatives do not deliver the intended outcomes due to various organisational, technological, and financial challenges –Suggests an Open Government Maturity Model to assess and guide initiatives focusing on transparent, interactive, participatory, collaborative public engagement, which can be enabled by social media.
	Linders (2012)	–Discusses the evolution of citizen coproduction in the age of social media; –Proposes a typology to support systematic analysis based on the overarching categories of "Citizen Sourcing," "Government as a Platform," and "Do-It-Yourself Government." –Demonstrates its use by using leading U.S. government implementations. –Discusses the possible emergence of a new social contract that empowers the public to be more active in government functioning.
	Meijer & Thaens (2013)	–Combination of contextual and path-dependency factors explains differences in emerging social media strategies of government organisations. –Social media follow their own logic, which is manifested only on fertile soil in a government bureaucracy.
	Mergel (2013a)	–Understands factors influencing internal adoption decisions on social media applications: information about best practises through their informal peer network; passive observations of best practises in both public and private sectors; and "market-driven" citizen behaviour. –Suggests tactics for adoption, namely representation, engagement, and networking. –Formalised knowledge sharing is important when it comes to disruptive technology innovations such as social media use in highly bureaucratic communication environments.
	Mergel (2013b)	–Current lack of measurement practises for social media interactions by managers. –Proposes a framework that traces online interactions to mission support and the resulting social media tactics.
	Mossberger et al. (2013)	–Examines the use of social networks and other interactive tools in the 75 largest U.S. cities between 2009 and 2011. –Strategies for social media: one-way "push" strategies prevail, although there are signs of greater openness towards dialogue with citizens.
	Oliveira & Welch (2013)	–Organisations do not use social media in the same way. –Factors such as work characteristics, innovativeness, technology and management capacity and stakeholder influence influence the use of social media for dissemination, feedback on service quality, participation, and internal work collaboration. –Social media are not a monolithic group –Calls for greater research attention to interactions amongst social media technology, task and organisational context.
	Picazo-Vela et al. (2012)	–Presents the perceptions of risks, benefits and strategic guidelines about social media applications –Governments' participation in social media results in improved communication and citizen participation, transparency, and transfer of best practises; –Good implementation strategy is needed to realise benefits and avoid risks; –Importance of updating laws and regulations, and promoting changes in culture and practises

(continued on next page)

Table 1A (continued)

Title	Reference	Dominant themes
	Reddick & Norris (2013)	–Reveals principal drivers for adoption: size, type, form of government, country region, education, e-government experience, and existence of a separate IT department –Concludes that social media do not appear to be moving local governments towards Web 2.0, but more towards Web 1.5.
	Snead (2013)	–Discusses the use of social media by executive agencies –Most agencies do use social media. The public interacts with the media and agencies experience high overall participation levels –There are still issues with agency use of social media and public participation with the media.
	Sobkowicz et al. (2012)	–Proposes a framework to understand how online opinions emerge, diffuse, and gain momentum. –Discusses three building blocks of online opinion tracking and simulation: automated topic, emotion and opinion detection in real-time; information flow modelling and agent-based simulation; and modelling of opinion networks.
	Warren et al. (2014)	–Social media for civic engagement has a significant positive impact on trust propensity and this trust leads to an increase in trust towards institutions. –Whilst group incentives encourage citizens to engage online for civic matters, it is civic publications through postings on social media that intensify the urge of citizens for civic action to address social issues –Institutions need to enhance trust amongst public. They should nurture social capital through online civic engagement and close the public–policy disengagement gap.
	Yi et al. (2013)	–Examines the current status of social media usage in both Korean and U.S. governments and suggests future directions.
	Zavattaro, & Sementelli (2014)	–Discusses how social media can increase capacity for engagement rather encouraging collaboration, depending upon the way the tools are constructed.
	Zheng (2013)	–Investigates the external drivers and challenges of Chinese government agencies and their internal capabilities in using social media; –Discusses the relationship and dynamics between the external environment and internal capabilities of Chinese government agencies in using social media.
HICSS	Chen, & Sakamoto (2013) Sandoval-Almazan, & Gil-Garcia (2013)	–Examines information sharing behaviour in social media when one was takes the perspective of self versus other; –Examines social media use for political and social activism in Mexico; –Social media influences government decision making and shaping the relationships between governments, citizens, politicians, and other stakeholders
Annual International Conference on Digital Government Research	Hansen et al. (2011) Kavanaugh et al. (2011). Picazo-Vela et al., (2013) Picazo-Vela et al., (2011).	–Analyzes the laws and policies related to the use of social media by U. S. government agencies –Proposes key policy objectives that should be considered when shifting towards across-agency, integrated social media. –Discusses the use of social media by government officials as well as community organisations, businesses and the public to improve services and communication. –Suggests that the sheer volume of social data streams generates substantial noise that must be filtered –Social media are technology artefacts with embedded social structures interacting with organisational strategies. –Analyzes the factors that affect the adoption implementation, and use of social media technology. –Illustrates the complex interactions between technology and organisational properties as technology becomes enacted. –Presents the perceptions of risks, benefits and strategic guidelines gathered by public managers in Mexico; –Suggests that the participation of social media use results in several benefits; putting a good implementation strategy into practise is necessary to realise the benefits and to avoid risks; and implementation of social media is related to updating highlights the laws and regulations, and promoting changes in governmental culture and practises.
Ecquid Novi-African Journalism Studies	Cooley & Jones (2013)	–Examines the use social media to raise awareness, funds, and further recovery efforts in disaster-prone areas using a case in Somalia.
Information Communication & Society	Ellison & Hardey (2013) Loader & Mercea (2011)	–English local authorities do not fully engage with social media –Local authorities miss a means to citizen engagement in terms of open-ended conversations about local political issues. –Suggests that social media can support but not replace the fixed but less agile institutions of representative democracy. –Suggests a more cautious approach for using social media to facilitate more participative democracy as well as to challenge traditional interests and modes of communicative power.
Local Government Studies	Ellison & Hardey (2014)	–Examines the potential of social media to enhance local participation. –Social media afford new opportunities for online interaction that may facilitate the reinvigoration of the local public sphere.
Theory Culture & Society	Gillespie (2013)	–Argues that digital tools deployed in the case study have become essential to corporate processes of the firm's governance and management procedures, business strategy, accountability measures, marketing practises and editorial decision-making; –Social media may be change agents, present methodological problems and opportunities, as well as symbolise the contradictory logic of empowerment and surveillance.
Review of Public Personnel Administration	Jacobson & Tufts (2013)	–Examines employee rights in relation to social media policies; –Discusses state government policies and highlights issues of public employee rights, recommendations for practise, and identifies future research needs.
Transforming Government: People, Process and Policy	Karantzeni & Gouscos (2013)	–Analyses eParticipation and social media in the construction and diffusion of a European identity for European citizens, as a valuable means of acculturation, through creating a common sense of belonging and self-identifying with the European ideals; –The focus for eParticipation should be redirected to social media due to their visibility, social group penetration, and their potential in targeting specific audiences.
International Journal of Electronic Governance	Kaun & Guyard (2011)	–Presents contradictions on the present discourse on democracy 2.0 in Sweden by illustrating a tremendous gap between the potential voters and their actual practises.
Information Polity: The International Journal of Government & Democracy in the Information Age	Leston-Bandeira & Bender (2013)	–Explores the role of social media use by parliaments in public engagement; –Parliaments use social media to report parliamentary business, partially interacting with citizens.
Electronic Government	Panagiotopoulos et al., (2013)	–Reconceptualises the relationship between social media and government responsiveness. –Identifies new dimensions of social media responsiveness.

Appendix

Table 2A

Review of the literature in EGRL (EGRL, 2014) for 'Openness' and 'Open Government'.

Title	Reference	Dominant themes
Journal of Macro-economics	Benarroch & Pandey (2012)	<ul style="list-style-type: none"> –Examines the causal relationship between trade openness and government size using both aggregate and disaggregated government expenditure data, including data on social security. –There is little or no support for a causal relationship between openness and aggregate or disaggregated government expenditure.
Croatian Journal of Education-Hrvatski Casopis Za Odgoj I Obrazovanje	Cano (2013)	<ul style="list-style-type: none"> –Assesses the educational community's appreciation of the principles of open government and e-leadership applied to schools; –Proposes a conceptual framework to guide educational strategies in planning and assessing open government initiatives.
Administration and Society	Catlaw & Sandberg (2014)	<ul style="list-style-type: none"> –Uses the concept of governmentality by Foucault to explore the underlying governmental rationality of Obama's administration policies and management practises –Proposes that the concept of governmentality may be viewed as a mutation within neoliberalism (defined as info-liberalism) that deploys an alternative conception of social government.
Government Information Quarterly	Katleen (2011)	<ul style="list-style-type: none"> –Discusses the role of the European Directive on re-use of public sector information when opening up government data. –Gives an overview of current policies and practises with regard to open government data –Argues that the success of the open government data can be because of the confusion or ignorance about the relationship between traditional freedom of information legislation and the re-use of public sector data.
	Lee & Kwak (2012)	<ul style="list-style-type: none"> –Social media for open government initiatives do not deliver the intended outcomes due to various organisational, technological, and financial challenges –Suggests an Open Government Maturity Model to assess and guide initiatives focusing on transparent, interactive, participatory, collaborative public engagement, which can be enabled by social media.
	Veljković et al., (2014)	<ul style="list-style-type: none"> –Proposes a benchmark for the Open Government and its application from the open data perspective using data available on the U.S. government's open data portal.
HICSS	Chan (2013)	<ul style="list-style-type: none"> –Presents a study on an open data initiative in Singapore. –Suggests that open innovation can facilitate open data initiatives.
	Koch et al. (2013)	<ul style="list-style-type: none"> –Discusses a set of considerations to develop the open government data portal into an open innovation platform. –Discusses user roles in a public sector online participation project and in particular the heterogeneity of community participants, the development over time and possible influences on the overall community building process.
	Scholl & Luna-Reyes (2011)	<ul style="list-style-type: none"> –Investigates the prospects and compares the potential pathways of the open government, transparency, collaboration, and citizen participation initiatives in the US and in Mexico. –Discusses how open government might successfully establish or re-establish power balances amongst government and major government-external players; –Presents a dynamic hypothesis that captures the nonlinear dynamics in the relationships of the major players involved.
Public performance and management review	Ganapati & Reddick (2014)	<ul style="list-style-type: none"> –Discusses the extent to which U. S. municipal governments have adopted open e-government for transparency, participation, and collaboration; –Suggests that the Chief Administrative Officers do not view open government as a fad and place it high on their respective agendas.
	Van Dooren et al. (2012)	<ul style="list-style-type: none"> –Uses article reports from the OECD's Government at a Glance project to provide measures of public administration performance. –Discusses the challenges related to this purpose with a focus on budgeting, human resources management, and open government.
Annual International Conference on Digital Government Research	Graves & Hendler (2013)	<ul style="list-style-type: none"> –Discusses the use of visualisation tools to make sense of Open Government Data. –Proposes visualisations as a simple mechanism to understand and communicate large amounts of Open Government Data.
	Lee & Kwak (2011)	<ul style="list-style-type: none"> –Discusses the Open Government Implementation Model that prescribes and guides government agencies on their journey to open government.
	Linders & Wilson (2011)	<ul style="list-style-type: none"> –Reviews the literature to identify a set of discrete lenses and objectives that align with the Open Data principles; –Assesses the policy implications, intended outcomes, and implementation challenges. –Synthesises the aforementioned analysis into a framework that helps agencies apply the Directive for Open Data as a tool for mission success.
	Harrison et al. (2011)	<ul style="list-style-type: none"> –Discusses transparency, participation, and collaboration function as democratic practises in administrative agencies –Proposes that planning and assessing Open Government can be addressed within a "public value" framework. –This framework can describe the value produced when interaction between government and citizens becomes more transparent, participative, and collaborative (democratic).
International Review of Administrative Sciences	Meijer et al. (2012)	<ul style="list-style-type: none"> Reviews the literature on openness, transparency and participation, and their interactions. –Open government needs interaction between techies, scientists and practitioners with backgrounds in law, economics, political science and public administration to facilitate active citizenship.
	Nam (2012)	<ul style="list-style-type: none"> –The use of Government 2.0 does contribute to positive attitudes towards Government 2.0. –The users who value transactions with e-government have a positive attitude regarding Open Government and Government 2.0. –Trust in government leads to a positive attitude towards Open Government and Government 2.0. –Frequent Web use and broadband adoption do not affect citizens' attitudes concerning Open Government and Government 2.0. –The citizens' attitudes towards government workings do not change much with introducing Open Government and Government 2.0.
Electronic Government	Kalampokis et al. (2013)	<ul style="list-style-type: none"> –Suggests that the real value of Open Government Data will come from data analytics on top of combined statistical datasets that were previously closed in disparate sources. –Describes the linked Open Government Data analytics concept along with its technical requirements, through a case related to UK general elections.

Appendix

Table 3A
Review of the literature in EGRL (EGRL, 2014) for 'Accountability'.

Title	Reference	Dominant themes
Acta Politica	Arnold (2012)	–Suggests that effective citizen monitoring of government officials depends on accurate corruption perceptions and the degree to which the citizens are politically informed; –Proposes that policy recommendations targeting corruption will have to include tools that increase civic engagement, government transparency, and press freedoms
Journal of Public Administration Research and Theory	Welch & Wong (2001)	–Combines two streams of research and sources of data (Cybersapce Policy Research Groups comparative analysis of website openness and Ferrel Heady's classification of the major dimensions of civil service systems) to answer the question: "To what extent and in what ways does the global information technology revolution affect the openness and accountability of public organisations?"
Governance	Wong & Welch (2004)	–Suggests an increase over time in government accountability measured by website openness. –Suggests that no matter if overall accountability levels rise due to the use of web-based technologies, the accountability gap between different national bureaucracies often remains intact. This is because web-based technologies can maintain or reinforce the existing practises.
Government Information Quarterly	Bekkers et al. (2013)	–Accountability through e-government depends on the type of bureaucracy one is referring to. –Social media monitoring for strategic control and responsiveness. –Social media monitoring poses normative questions in terms of transparency, accountability and privacy. –Policy departments are more strongly orientated towards monitoring. Policy implementation is more inclined to progress to webcare.
HICSS	Petrakaki et al. (2008)	–Argues for more transparency on social media monitoring. –Discusses the impact of The paper provides an account of the likely performance monitoring systems on public service accountability.
Annual International Conference on Digital Government Research	Harrison & Sayogo (2013)	–Argues that performance-monitoring technologies are a limited tool for ensuring accountability. –Discusses the socio-political conditions related to qualitative aspects of budget transparency, types of public participation in budget processes, and qualitative aspects of four types of audit documents. –Suggests that the level of democratisation of a country and its level of budget document disclosure are related to the release of qualitatively better budget content, qualitatively better accountability content and the involvement of the Supreme Audit Authority with the public. –Suggests that neither from the aforementioned factors is related to the tendency to engage in budget-related public participation processes.
Information Polity: The International Journal of Government & Democracy in the Information Age	Lourenço (2013a)	–Considers the role of scientists and researchers as 'information brokers' and analyzes transparency assessment literature and the way information was being searched for transparency initiatives. These are enabled through developing portals where a huge number of datasets is made available.
Electronic Government	Lourenço (2013b)	–Proposes a set of requirements as part of a framework to assess the role of dataset portals in transparency focusing on accountability. –Suggests that such dataset portals should follow the informational and operational requirements identified in the 'traditional' transparency assessment literature.

Appendix

Table 4A
Interviews per public and private organisations and organisational profiles.

Number of interviews	Position	Organisation	Profile of Organisation
1	CEO	A	Organisation A is the leading Software & Integrated IT Solutions Group in Greece. The Group offers integrated IT systems and support services. The Group boasts a nationwide network of authorised partners, numbering more than 500 partners all over Greece.
1	CEO	B	Organisation B is the largest ICT company focused on the implementation of large-scale critical Governmental transformation projects.
1	CEO	C	Organisation C is one of the leading Greek IT companies with main lines of activities in software development and in provision of integration services for Information Systems.
1	CEO	D	Organisation D is one of the largest ICT companies in Greece focused on innovative ICT offerings.
1	CEO	E	Organisation E is a leading ICT company focused on large governmental projects.
1	Highest-echelon policy maker	F	The F Organisation is a public sector organisation.
1	High-echelon public employee	G	The G Organisation is a public sector organisation.
1	High-echelon public employee	H	The H Organisation is a public sector organisation.
1	High-echelon public employee	I	The I Organisation is a public sector organisation
1	Highest-echelon policy maker	J	The J Organisation is a public sector organisation.
1	High-echelon public employee	K	The K Organisation is a public sector organisation
1	CEO	L	The L Organisation provides IT oriented services based on innovative mobile technologies
1	CEO	M	The K Organisation is a large IT provider of enterprise apps software.
1	CEO	N	The K Organisation is a leading Greek ICT Integrator with presence of over 25 yrs and focus on HW innovation solutions

Appendix

Table 5A

Interviews per initiative and organisational profiles (Note: some of the organisations below are also listed in the previous table).

Organisation/profile	Title/Role of interviewees	Initiative
Organisation L is a non-profit Greek organisation. The company's main objectives are to promote ICTs in Greece and to enlarge the ICT Industry's market. The company represents the interests of the Greek ICT Enterprises vis-à-vis the Greek Government, the European Commission and other bodies of influence.	Project Manager	Cl@rity
	Chief Executive Officer	HERMES, Cl@rity, OpenGov, OpenGeoData, StartUpGreece
	Member of Board of Directors	HERMES, Cl@rity, OpenGov, OpenGeoData, StartUpGreece
	Chief Executive Officer	HERMES
Organisation M is a private organization, and one of the largest S/W and H/W providers in Greece.	Project Manager	Cl@rity
	Technical Director	
Organisation N is a private organization. It is an established System Integrator and Value Added Solutions Provider in Greece	Account Manager	
	Project Manager	
Organisation O is one of the largest S/W and business process re-engineering providers in Greece	Technical Manager	
	Senior Consultant	
Organisation P, a private organisation, is amongst the big 3 IT (H/W and S/W providers in Greece)	Professional Services Director	
	Scientific Director	
	Chief Executive Officer	HERMES
	Chairman	
	Public Sector Unit Manager	
	Senior Project Manager	
Organization J	Account Manager	
	Senior SW Engineer	
	SW Engineer	
	SW Engineer	
	Senior Consultant	
	Highest echelon policy maker	HERMES, Cl@rity, OpenGov, OpenGeoData, StartUpGreece
	Higher echelon public employee	HERMES, Cl@rity, OpenGov, OpenGeoData, StartUpGreece
	Consultant	OpenGov, StartUpGreece
	Project Manager	
	Project Manager	OpenGeoData
Organisation Q is a public organization that specialises in the Greek strategic policy planning	Higher echelon public employee	HERMES, Cl@rity, OpenGov, OpenGeoData, StartUpGreece
Organisation R is a public organisation. It provides the infrastructure and services for both the academic community and general public	Higher echelon public employee	OpenGov
	Project Manager	
Organisation S is a public organisation. It participates in various R&D and technological initiatives, innovative application activities and knowledge transfer activities. It aims at facilitating the participation of Greece in the 'Europe 2020 strategy' and to support sustainable growth in Greece.	CIO	
	Deputy Director	OpenGeoData
	Scientific Coordinator	
Organization F	Highest-echelon policy maker	StartUpGreece
	High echelon public employee	

Appendix

Table 6A

Affordances as emergent themes of the study.

Emerging themes (affordances)	Extracts from interviews	Relevant/indicative literature
Communicability and Interactivity	<p>"I am using social media myself as a way of communicating with citizens. It is a means through which we can communicate what we think in the same sort of ways—I mean different types of information provided by citizens and myself. Now in terms of applying social media to Government, I think a means like social media can enable us and citizens to communicate rapidly and directly using same language and in this way participatory democracy is enhanced." (Organization F).</p> <p>"The use of social media is for us is a way of interacting with posts with citizens... real time maybe or we think about what and how to reply. And all is on the web. It is a tool to service co-creation... for us to use is piece of cake...looks like a word document with editing features...as one goes from the project level to the application level and manages the service, they will have to work through social media to talk about collaborative design and implementation of e-government services...and we can locate this knowledge... you can go back to posts or discussions to track down exactly what we are told to do by citizens, and what we have promised to do." (CEO, Organisation A).</p> <p>"For us the benefit is that we do not have to make huge investments to provide such tools through for instance a governmental portal. Since those applications will need to have low requirements to run, we do not need to make huge investments on hardware or software applications, or managing skills. Especially in the current period of crisis, we can capitalise on the use of open source to this direction to enable and participate in open governance and e-democracy...it is easier to talk about these scenarios. What we get for this in exchange is participation in the co-creation of service and</p>	<p>Aral et al. (2013); Bannister & Connolly, (2012); Bertot, Jaeger & Hansen, (2012); Bertot, Jaeger, & Grimes, (2010; 2012); Chun & Luna-Reyes, (2013); Kim et al., (2009)</p>

(continued on next page)

Table 6A (continued)

Emerging themes (affordances)	Extracts from interviews	Relevant/indicative literature
Visibility	<p>establishment of relationships with government, even for more projects in the future..." (CEO, Organisation B).</p> <p>"The basic reason why we included social media applications (fora etc.) in the project was because we wanted the citizens to talk to each other through the web and agree, disagree, but reach a common ground and participate in decision making" (Project Manager, Organisation L)</p> <p>"if you were to ask me what is the most important element of OpenGov, I would say of course the social media part...why? Well it is obvious. Social media is used by millions in the world, thousands in Greece, so why not getting their voices heard, why not making them to interact and communicate, and participate in decisions?" (Chief Information Officer, Organisation R).</p> <p>"I think of using such tools in consultations on public projects and many of the applications in the Open Governance and Clarity to take the form of social media. For us then, social media is vital to securing citizen participation and consultation on projects. It is also a way to get their brains when designing services. For us, since we get them involved we become more accountable and clear in what we will do in terms of policy and what we will not... and there is Europe 2020—social media needs to be in the agenda." (Highest-echelon policy maker, Organisation F).</p> <p>"In all the projects we have participated—and there are many, believe me (laughs)—we aimed to make the public to see the work of the government. That is our aspiration; nothing is hidden under the sun, they say, and in our case nothing is hidden when using social media applications and tools" (Chief Executive Officer, Organization L)</p> <p>"we used social media applications because we wanted to make sure that our work in public sector reform through Hermes, Cl@rity and all projects [all projects referred to in the study] is actually seen by our citizens. But it is not only seen, it is sort of 'advertised' to citizens, and this is very important" (Higher echelon public employee, Organization J)</p>	<p>Aral et al. (2013); Bannister & Connolly, (2012); Bertot, Jaeger & Hansen, (2012); Bertot, Jaeger, & Grimes, (2010; 2012); Chun & Luna-Reyes, (2013); Kim et al. (2009); Picazo-Vela, Gutierrez-Martinez, and Luna-Reyes, (2012)</p>
Collaborative ability	<p>"Social media use in e-government is a must...It is high time to get the benefits offered. Social media needs always to be associated to e-government. And for us that we develop enterprise application software, it is a way of getting in touch with our customers, the citizens, and we can get their views and comments immediately, or respond to their views and comments. We can track down what they need or go back to see what they said they want...Nothing is as interactive and user-friendly...IT can do miracles these days!" (CEO, Organisation M).</p> <p>"This may be related to the debate on a new law, a ministerial decision, or even a potential e-government project...e.g. when it was announced that the State will launch electronic identities for the citizen (Citizenship card), card etc. immigrant created a large online dialogue [online consultation] and showed the public opposition to the adoption of citizenship cards. The State has taken into account the electronic dialogue and re-evaluated the project to be involved in creating the citizen card" (High-echelon public employee, Organization I).</p> <p>"The use of social media and networking tools for gathering ideas and knowledge is our target. And this is not only in terms of Startup Greece, but also as we go from a project to n applications, so you have to work through social media to talk about collaborative design and implementation of eGovernment services. I think this is obvious... does not need much thought!" (High-echelon public employee, Organization H).</p>	<p>Aral et al. (2013); Bannister & Connolly, (2012); Bertot, Jaeger & Hansen, (2012); Bertot, Jaeger, & Grimes, (2010; 2012); Bertot, Jaeger, Munson, & Glaisyer, (2010); Chun & Luna-Reyes, (2013); Kim et al. (2009); Picazo-Vela et al. (2012)</p>
Anonymity	<p>"For us that we have participated in StartUp Greece, the importance of social media is tremendous. In the current situation—that is, financial crisis—we need new ideas and knowledge sharing, and social media is the key to this. We can build on top of these applications crowdsourcing and other important tools to promote entrepreneurship and growth" (Project Manager, Organisation J).</p> <p>"Social media tools can provide important services to citizens. It is a smart way to ensure the anonymous participation of citizens in e-governance issues. When I was participating in the Cl@rity project I saw that in general citizens are trying to interact and collaborate on issues involved and to express an opinion. They have even tried to communicate with me via social networks in my personal account. This means that the soil is fertile. What is required to take political decisions, to move and to exploit the potential offered by new technologies and particularly the Internet and to respond immediately to the request of citizens for participatory governance. But we need to make sure we secure anonymity, otherwise we will be accused of spying on citizens. The soil is mature and conditions are critical. There is no room for delay. However, we should not forget that if we have no control about what content citizens create, we may end up in impunity." (Organization G)</p> <p>"It is good to get their [citizens'] anonymised views and that we communicate our views directly—the medium of social media is fantastic in this sense...it can be or not real-time tool, and provides a fantastic user-friendly environment. Political decisions will be taken jointly with citizens. The momentum is upon us and we need to respond to the citizen needs for participatory governance, and to our need for transparency and participatory decision making. We need to collaborate... the soil is mature and conditions are critical." (High-echelon employee, Organisation G).</p> <p>"There is a greater need to consider such alternatives in times of crisis. In times of crisis we need more transparency and meritocracy. People do not have trust in what the government is doing and how it is doing it...this trust was lost since 2008...the government needs tools to visualise the citizen's participation and co-creation of services...needs to show that corruption is over. People need to be more involved in government" (CEO, Organisation C).</p> <p>"Cl@rity is one of the largest, if not he largest project in Greece in terms of public sector reform. To make citizens participate in decision making, we had to make sure that their opinion is heard, but their profile is not" (Scientific Director, Organisation O).</p>	<p>Aral et al., (2013); Bannister & Connolly, (2012); Bertot, Jaeger & Hansen, (2012); Bertot, Jaeger, & Grimes, (2010; 2012); Bertot, Jaeger, Munson, & Glaisyer, (2010); Chun & Luna-Reyes, (2013); Kim et al. (2009); Picazo-Vela et al., (2012); Shim & Eom, 2008; Wylid, (2008).</p>

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