



Understanding risks, benefits, and strategic alternatives of social media applications in the public sector

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ABSTRACT

Social media such as blogs, microblogs or electronic social networks can transform the ways in which we relate to other people and organizations. Government organizations are experimenting with social media to communicate with their constituents, and many analysts see in these media a powerful set of tools to reinvent government–citizen relationships. In this paper, we present the perceptions of risks, benefits and strategic guidelines about social media applications gathered from 250 public servants from Central Mexico, most of them working in information technology, as web masters or responding to Freedom of Information Act requests. The conclusions of the analysis are 1) that governments' participation in social media may result in improved communication and citizen participation, more transparency, and transfer of best practices among government agencies; 2) that a good implementation strategy is necessary to realize these benefits and to avoid risks; and 3) that the implementation of social media highlights the importance of updating laws and regulations, and of promoting changes in government culture and organizational practices.

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1. Introduction

In the government, new media are capable of transforming power relationships between citizens and organizations to create a more open government; new media might even have the potential to transform current governance system at the city, state or country levels. In the private sector, organizations used social media to build customer relationships, interesting business models, or ways to create competitive advantages (Anderson, 2006; Surowiecki, 2004; Tapscott & Williams, 2006). In the government, these applications facilitate openness, transparency, and democratization (Lathrop & Ruma, 2010; Noveck, 2009). Moreover, events such as the WikiLeaks affair, in which private communications between the U.S. Secretary of the State and U.S. diplomats were made public, point toward the fact that the concepts of open government democracy and freedom of information were being transformed by social media.

Although there are many benefits and promises from social media and related technologies, several risks are associated with their use. In the past, technology applications like email and chats (text and video) were used to increase communication between organizations and their main constituents. These efforts have resulted both in benefits for organizations, and in some unanticipated problems. For example, when organizations began to communicate with their customers over email, the main concerns pertained to the technology (e.g. the server

or website), but not of the organizational changes that were needed. In this case, organizations neither assigned this responsibility to specific personnel, nor trained the personnel to respond to customers' requests. So email answers took days or weeks, if they came at all. The result of the technology was customer dissatisfaction.

The number of participants in social media websites like Facebook or Twitter continues to grow, with more than 800 million active users in Facebook (Facebook, 2012), and 300 million users of Twitter (Taylor, 2011). Growing dynamics of electronic social networks suggest that social media is not a fad. All types of individuals and organizations use social media. Public and private organizations are using social media to communicate with citizens and customers with different results, and not necessarily as a component of a long-term strategy. Many organizations have adopted social media following a trial-and-error approach, and at the expense of several organizational resources. For instance, an exploration of Mexican states' use of social media shows that only about 400,000 citizens out of 100 million are exchanging information with their state governments (Sandoval-Almazán, Gil-García, Luna-Reyes, Luna-Reyes, & Díaz-Murillo, 2011). Moreover, this same study shows that about 20% of Mexican states discontinued their use of Twitter or Facebook during the last year. Social media is still a new technology that needs to be better understood in terms of its benefits, risks, barriers and strategic use.

In this paper we introduce the perceived risks and benefits of social media among public servants from Mexico, and especially the strategic elements to include social media in e-government policy and as a communication channel with citizens. To accomplish this objective, the paper consists of five sections including this introduction. In Section 2, we define social media, previous studies of the use of

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social media at organizations, their use in the public sector, and a conceptual framework that is useful to organize the perceptions of participants. In [Section 3](#), the research methodology is elaborated. In [Section 4](#), the results of the study are explained. Finally, in [Section 5](#) we present the findings and conclusions, and we suggest some ideas for further research.

2. Literature review

This section begins with a description of some of the key elements related to electronic government in Mexico, and continues with previous research on social media in the government. The section finishes with a conceptual framework used to organize and discuss the results of our research.

2.1. Electronic government in Mexico

Electronic government, or the use of information technology (IT) in the government, began in the 1950s and 1960s, when governments first acquired mainframes with batch processing capabilities ([Andersen & Dawes, 1991](#)). The term *e-government*, however, was coined in the mid-1990s, as a parallel term to *e-commerce* and the use of the internet. In 1994, President Ernesto Zedillo of Mexico uploaded the first website for the presidency, along with two important programs to promote the strategic use of IT in the government: the Public Management Modernization Program, and the Informatics Development Program ([Gil-Garcia, Arellano-Gault, & Luna-Reyes, 2010](#)). By the early 2000s, all state governments in Mexico had an internet presence, at least in the form of a simple home page with a message from the Governor and some basic government information.

At the Federal level, the most important impulse to electronic government in Mexico took place under President Vicente Fox, mainly because of the Good Government Agenda, and the e-Mexico program ([Gil-Garcia et al., 2010](#); [Luna-Reyes, Gil-Garcia, & Cruz, 2007](#)). The former included a set of strategic elements promoting process improvement, IT infrastructure and information policy with the purpose of creating a more effective, efficient and trustworthy government. The e-Mexico program consisted of three strategic components. The first supported Good Government Agenda strategies by promoting investment and the development of an IT infrastructure and system platforms for the government. The second was associated with the creation of internet access points for citizens, and the last created content in the areas of health, education, economy and government services ([Luna-Reyes, Gil-Garcia, & Cruz, 2007](#)). Both programs provided a wide variety of relevant content for Mexican citizens. Moreover, the infrastructure program had a positive impact on access to internet, which was 29.7% in 2011 according to the Mexican Association for the internet ([AMIPCI, 2011](#)). In fact, the e-Mexico program was very innovative, creating on-line communities through the main web portal, and taking the country to the top ten of the UN's 2004 e-Participation index ([Luna-Reyes, Gil-Garcia, & Rojas-Bandera, 2007](#)).

Despite these developments during President Fox's term, Mexico still lacks an integrated strategy to take advantage of IT investments in the public sector. In fact, investments and innovations through electronic government have been reduced under President Calderon ([Gil-Garcia et al., 2010](#)). As a result, Mexico has dropped from 31st place in the UN Government e-Readiness index in 2005 to 55th in the 2012 report ([UN, 2012](#)).

Many Federal agencies are experimenting with the use of social media. Some of them, such as the Bureau for the Defense of Consumer Rights, are making innovative uses of blogs and videocasts. Unfortunately, there has been no systematic assessment of social media adoption and use by Federal agencies. The online presence of Mexican states has been improving ([Sandoval-Almazán & Gil-Garcia, 2009](#)). The inclusion of social media tools in state government portals has

increased, but still is in its early stages. About one-third of states use RSS feeds, only 3.1% have blogs, and 48.8% use social markers and social networks ([Sandoval-Almazán et al., 2011](#)). An evaluation of 108 municipal websites reflects an even lower level of adoption. The evaluation – which took place in 2009 – shows that only 19% of the websites included in the sample used RSS feeds, and 17% had a blog with which to communicate with citizens ([Sandoval-Almazán & Gil-Garcia, 2012](#)).

President Calderon has expressed his commitment to innovation and transparency, creating a new model of digital communication for the presidency. This model has four components: a new website, online spaces for interaction with citizens, an ordered platform of social networks, and a presidential blog ([Sosa-Mirafuentes, 2011](#)). Although the new model shows the importance of social media to the President, there is virtually no interaction between the President and the citizens on these spaces. The assessment of perceived risks, benefits and strategic alternatives of social media tools which we explore in this paper may increase the use of social media by the Mexican government.

2.2. Previous research in social media use in the government

The literature often refers to social media as Web 2.0 and most of the time these terms are used interchangeably ([Kaplan & Haenlein, 2010](#); [Ryberg, 2008](#)). However, social media and Web 2.0 are distinct concepts ([Kaplan & Haenlein, 2010](#)). Web 2.0 (also called social or participatory web) stands as a networked platform, spanning all connected devices that encourage collaboration in terms of the creation, organization, linking and sharing of content ([Chang & Kanan, 2008](#); [Chun, Shulman, Sandoval-Almazán, & Hovy, 2010](#); [O'Reilly, 2007](#)). This platform includes a collection of technologies such as blogs, microblogs, wikis, content sharing sites, social networking sites, and RSS ([Chang & Kanan, 2008](#); [Chun et al., 2010](#); [Kaplan & Haenlein, 2010](#); [Kes-Erkul & Erkul, 2009](#); [Kuzma, 2010](#)). Social media, in contrast, “is a group of internet-based applications that build on the ideological and technological foundations of Web 2.0 and that allow the creation and exchange of user-generated content” ([Kaplan & Haenlein, 2010](#), p. 61). Following this idea, Web 2.0 is more related to the technical platform in which social media applications are built to create and exchange user-generated content.

Social media using Web 2.0 technologies is a worldwide phenomenon, with two-thirds of the global online population visiting social sites ([Kuzma, 2010](#)). Some social media sites that dominate the global market, in terms of social networking and user contents, are Facebook, LinkedIn, YouTube and Twitter ([Kes-Erkul & Erkul, 2009](#); [Kuzma, 2010](#)).

Because of the success of social media, researchers are studying a variety of applications and potential issues related to the use of social media at organizations. Some of the research on applications at organizations includes the study of its roles in individual adaptation to IT-induced change ([Bruque, Moyano, & Eisenberg, 2008](#)), in providing e-services ([Chang, Yuan, & Li, 2009](#)), and in finding business opportunities ([Wilson, 2009](#)). On the other side, studies about potential problems of the use of social media at organizations include their use to support hiring decision at organizations ([Clark & Roberts, 2010](#)), privacy concerns ([Chang & Kanan, 2008](#); [Sola-Martinez, 2009](#); [Tisselli, 2010](#)), cross-cultural impact ([Vitkauskaitė, 2010](#)), and effects on productivity ([Wilson, 2009](#)).

Governments are adopting social media with different purposes, such as recruiting activities ([Dorris, 2008](#)), reaching out to citizens and other stakeholders ([Chang & Kanan, 2008](#); [Dorris, 2008](#)), sharing information within and across government agencies; disseminating information to the public ([Chang & Kanan, 2008](#); [Dorris, 2008](#)), enhancing community participation in decision making or voting ([Chun et al., 2010](#); [Dorris, 2008](#)) and achieving transparency ([Bertot, Jaeger, & Grimes, 2010](#); [Jaeger & Bertot, 2010](#)).

Among the benefits of the use of social media in governments are efficiency, user convenience, transparency, accountability, citizen

involvement, and improved trust and democracy (Chang & Kanan, 2008; Chun et al., 2010; Cromer, 2010; Dorris, 2008; Kuzma, 2010; Landsbergen, 2010). By using social media applications, governments can communicate more efficiently with people, and save money and resources, than when using traditional communication methods or developing their own social sites (Kuzma, 2010; Landsbergen, 2010). User convenience is part of social media because users can retrieve the information provided by governments (Kuzma, 2010). Informing citizens about what governments are doing can encourage transparency and accountability (Chun et al., 2010; Cromer, 2010). Social media enhances citizen involvement by increasing opportunities to participate and collaborate, for example in terms of feedback about services and design contents. The involvement of governments in those processes can improve democratization and citizens' trust in the government (Chang & Kanan, 2008; Chun et al., 2010; Dorris, 2008; Kuzma, 2010).

The keys to success in government services' transformation through the use of social media include knowing the citizens and other constituencies (demographics, social networking, and forms of collaboration), continuously measuring citizen satisfaction, understanding new technological trends, sharing best practices across government, and developing a strategic plan (Dadashzadeh, 2010; Dorris, 2008). Some of the components that must be considered in the development of a strategic plan are future public service value expectations (outcomes, fairness, transparency), strategic focus of social media, inventory of current IT capabilities and emerging technologies, social media governance (right, responsibilities, and rules), key performance indicators (measures), social media application portfolio, project ranking and implementation schedule (Dadashzadeh, 2010).

However, the adoption of social media by the government confronts a series of barriers. Some of these barriers relate to records management, privacy and security issues, accuracy, and administration-specific requirements (Bertot, Jaeger, & Hansen, 2012; Bryer & Zavattaro, 2011; Dadashzadeh, 2010; Landsbergen, 2010; Sherman, 2011).

It is still not clear if the use of social media by government officials entails the creation of public records that should be retained or cataloged to comply with the law (Bertot et al., 2012; Sherman, 2011). Under Ohio statutory law, for example, public records do not depend on the type of media but its content (Landsbergen, 2010). Governments must therefore be prepared to eliminate the risks of not being able to respond to requests supported by the Freedom of Information Act (FOIA) and other laws. Some authors have recommended appointing a federal chief records officer (Franks, 2010).

Exchanging information always entails the possible risk of revealing personal identifiable information. The agency responsible for the information should take reasonable steps to protect the information. In the case of social media implementation, governments have two options: to develop the platform, or to use a provider like Facebook or Twitter. If governments develop the platform, they are responsible for controlling the information that is collected and stored. However if they use a third-party provider the owner of the information is not clear and the government may have limited control over the information (Bryer & Zavattaro, 2011).

Other potential risks in social media implementations are related to security concerns. As social media includes two-way communications, the risk of inserting malware into governments' websites exists (Bertot et al., 2012), so the IT people should be prepared to protect government's information technology infrastructure.

Finally, administration-specific requirements may result in other types of risks. Governments that would like to implement social media need to verify if people in charge of updating the media will have the time to update the new communication channel; they also need to answer other questions such as what to post, how and when often they will update (Bryer & Zavattaro, 2011; Landsbergen, 2010). The lack of resources and procedures could undermine the accuracy of the information posted on social media.

In order to assist public agencies to achieve best practices in the domain of social media, several countries, including the U.S., have developed social media guidelines focusing on their benefits, risks and strategic components. For example, to keep President Obama's promise about government transparency and open government, the U.S. federal government has several initiatives where social media is an essential topic, such as lowering the cost of government; cybersecurity; participatory democracy; and innovation. To support Federal agencies in the use of social media, the Obama administration has formulated a series of guidelines and recommendations. These guidelines have supported the development of a secure strategy, addressing policy controls, acquisition controls, training controls, and host and network controls (CIO Council, 2009).

In 2008, Canada set guidelines about how public servants should use social media, including a Wikipedia-like program, internal blogs, and social networks. Specific guidelines about the external use of social media were published in 2011 (Government of Canada, 2011). Both guidelines (internal and external) not only deal with the benefits of interactive and rapid communication but also encourage public servants to become aware of the risks of social media (Toronto Star, 2011). In the same way, the state of Queensland in Australia has established guidelines for delegates and practitioners responsible for designing or developing agency business or online community engagement activities (Smart Service Queensland (SSQ), 2010). Those guidelines are intended to define the use of social media, its risks and benefits, understanding policy and legislative requirements and recommending a checklist to be used as a part of a risk assessment prior to implementation. The government of South Africa has also established guidelines making government agencies aware of the opportunities, the benefits and the risks of social media. Those guidelines were developed to foster transparency of government processes as well as participation of the public and interaction with citizens (South Africa Government, 2011).

Although the use of social media in Mexican state government portals is recent, the development of relationships between government and citizens is growing fast (Sandoval-Almazán et al., 2011). However, in contrast with other countries, to our knowledge, there is still no guideline for the use of social media in Mexico. The study of perceived risks, benefits, and strategies will be very helpful in the development of those guidelines.

2.3. Conceptual framework

As suggested by the literature introduced in the previous section, social media offers alternative communication channels between the government and the citizens and among the citizens themselves. In order to understand the risks and benefits associated with this alternative communication channel, we apply an existing conceptual framework used to understand key dimensions influencing digital government applications (Gil-García, Pardo, & Baker, 2007). We are using a slightly modified version of the initial framework (Luna-Reyes, Gil-García, & Celorio-Mansi, 2010). We believe that the categories included in the framework constitute a useful reference, which capture the complexity of digital government applications. The layers included in the framework are (1) general context, (2) institutional framework, (3) interorganizational collaboration and networks, (4) organizational structures and processes, (5) information and data and (6) technology (see Fig. 1). This same framework can be used to categorize and better understand the risks, benefits and strategic guidelines in the use of social media in public organizations. In the following paragraphs, we offer a brief description of each category.

General context is the environmental aspects in which social media projects and digital government evolve. The context consists of the economic, political and social factors that affect the government's use of social media. Some examples of contextual factors include the digital divide, electoral competitiveness, or poverty. Such variables can have a significant effect on service demand, and as a consequence on social media projects.

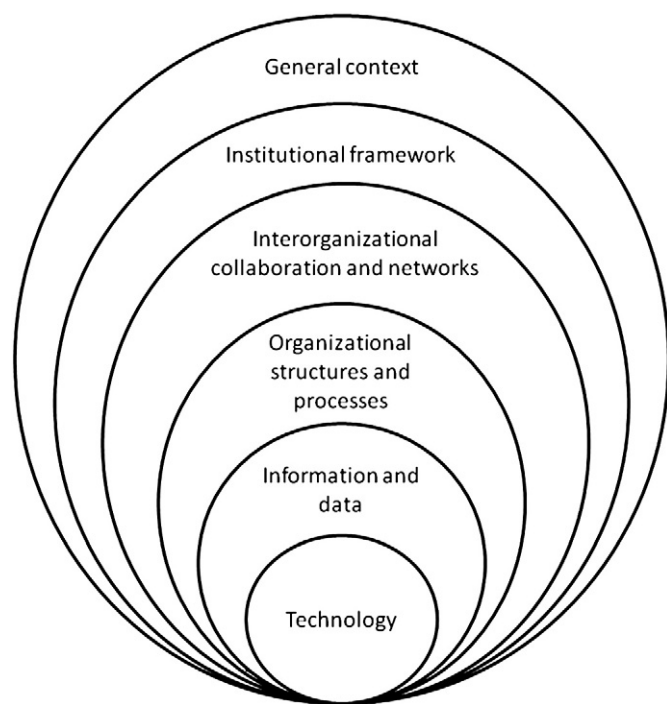


Fig. 1. Conceptual framework (Luna-Reyes et al., 2010).

The *institutional framework* consists of laws, regulations, norms or any other rule that could influence social media use in the public sector. Institutional frameworks can be very complex, and depending on the application of social media, it could involve regulations that are not directly related to information technology use, but related to the specific area of public policy in which social media is being used, such as education, environment, public safety, or health. Institutional frameworks are crucial because public organizations can act only within the limits of the law.

Interorganizational collaboration and networks constitute another increasingly important component for the success of IT projects in the government such as social media projects. The complexity of the problems faced by public organizations is pushing them toward a networked form of organization, moving them away from the traditional bureaucratic/hierarchical model. The network form of organization enables a better response to citizens' needs, and even extends to non-profit and private organizations inside the network. Interorganizational collaboration and information share help to provide better services to the citizen and to improve the government's problem-solving capabilities.

Organizational structures and processes include both the way organizations are structured (hierarchical levels, size, etc.) and the processes and strategies used in daily operations by organizations. Organizational structures affect the performance of organizations. For example, a decentralized organization will work differently from a centralized one; an organization with formal communications channels will work differently from an organization with informal ones. In a similar way, organizational processes such as planning, training, or performance measurement affect both the characteristics and the outcomes of social media use.

Information and data encompass aspects like the availability of data, the level of detail needed, and the quality and use of information. The lack of high-quality data or information may cause project delays or even failure. In social media, public officers in charge of managing citizens' requests need quality information. For this reason, information and data must be considered when starting social media projects.

The last category includes hardware, software, and infrastructure technologies. When technology needs are not well planned, two undesired situations could result: incompatibility of systems that have to share information, and the use of new and relatively untested technologies. Changes in technology, as well as IT investment organizational practices contribute to dissimilar and incompatible technologies in organizations. In the second case, the use of new technologies, not tested in the specific context to be implemented, results in problems or additional challenges.

These six categories are consistently used in the following sections to categorize perceived risks, benefits and strategic alternatives for introducing social media.

3. Methods

The research reported in this paper is the result of a workshop that took place on September 10, 2009, as part of the 4th National Symposium of Government Portals in Mexico City (<http://portales2009.politicadigital.com.mx/>). The purpose of the symposium was to discuss the impacts of electronic social networks on government, particularly the strategy related to the government portals. Participants included 250 public servants, mainly from Mexico City, and the states of Mexico, Puebla, Tlaxcala, Morelos and Hidalgo. They had responded to an open invitation from the editorial team of *Politica Digital*, a widely distributed practitioner-oriented magazine. All participants were IT personnel, web masters or Freedom of Information Act (FOIA) contact persons in federal, state and local agencies.

During the workshop, participants were divided into about five 50-person groups. A consultant or a researcher in electronic government facilitated each two-hour group discussion, which took the form of a brainstorm exercise. The method has been used to generate, combine and improve ideas in a group context (Osborn, 1963). Each group discussed three main questions: What are the main risks of using social media in government? What are the potential benefits of using social media in government? What could be some strategic guidelines to take advantage from social media in government? The three questions focused on electronic social networks such as Twitter.

Besides the facilitator, each group had a secretary who recorded participants' answers to these questions in a word processor. Each of the groups created a set of categories to report back to the largest group the main risks, benefits and strategic guidelines discussed during the workshop. The responses from each group were then collected in a single file, and the authors re-categorized them using the framework described in the Literature review section. During re-categorization, the authors consolidated the list merging similar or duplicated ideas in a single item. As part of this process, the authors recorded the number of times that similar or duplicated ideas appear in the data set.

4. Results

Categorized responses to questions are shown in Tables 1, 2 and 3. Responses are organized by the six categories of the conceptual framework. Numbers in parentheses at the end of an idea represent the number of times that the idea was repeated in the data set.

Table 1 shows the risks of using social media. In the case of the general context, participants fear that because citizens do not have complete information regarding government achievements and because public criticism to government policies and procedures is common, citizen participation could be very negative, including using profanity or complaining about government procedures instead of being constructive. This could create an inhospitable environment for users of the social network. Participants also agree that there are risks related to education and culture. For example, not everyone knows how to use this type of technology. In this respect, they think that government officials lack citizen-centered culture. They also identified potential risks

Table 1
Perceived risks associated with social media.

<p>1. General context</p> <ul style="list-style-type: none"> • Technological and digital illiteracy impacts the understanding of web and social networks (5) • Only 30% of population with access to internet • Difference in communication styles (government officials vs. citizens vs. regions) (3) • Public criticism and lack of trust toward government agencies (4) • Inappropriate use of social networks (2) • Government portals developed inappropriately • Fear to establish direct communication with citizens 	<p>4. Organizational structure and processes</p> <ul style="list-style-type: none"> • Initiate the project without a strategy, clear objectives, and a clear description of the role of the government (9) • Organizational structure could impact the use of a social network (4) • Employee in charge of answering to citizens should have enough knowledge and time to generate good answers (9) • Lack of vision of the IT department • Cost–benefit analysis • Managers' support • Saturation of the communication channels • Focus on wrong user segments • Setting standards for answering customers' inquiries (4) • Lack of training for employees to use this kind of tools (3) • Loss of control of delivery of information (2) • Some customer inquiries are not suitable to be handled in social networks • Limited budget • Government officials lack a citizen-centered culture and open information (5)
<p>2. Institutional framework</p> <ul style="list-style-type: none"> • Degree of government openness (2) • Freedom of information regulations and practices • Development of policies for release of information (2) • Potential intellectual property and copyright infringements • Lack of a regulatory framework for the activities related to social networks (2) • Potential infringements to international or national regulatory frameworks about security of the information • Bureaucratic process for dealing customer needs (3) • Changes of officials limit the life of the social network • Theft of information • Identity theft (4) 	<p>5. Information and data</p> <ul style="list-style-type: none"> • Repetition of content in several platforms • Reliability of the information published by governments (3) • Dispersion of a message in the different channels • Lack of information or updated information (2) • Access to data • Integrity and validity of the information (2) • Some information is sensitive and cannot be distributed (2) • Setting of a process to organize, structure, and distribute the data in the network (2) • Information opens the door to more questions
<p>3. Interorganizational collaborations and networks</p> <ul style="list-style-type: none"> • Collection of experiences to improve responses • Lack of communication among participants: content providers, PR officers and IT people (3) • Operating methods in different levels of the government 	<p>6. Technology</p> <ul style="list-style-type: none"> • Reliability of the network • Availability of computers to manage the social network (2) • Security of the website(2) • Changes in IT area • Technology infrastructure of the municipalities (2) • Systems failures and downtime • Blocking of social networks by government • Wrong or inadequate use of the network

related to communication styles and the use of different languages in some municipalities.

Some risks were connected to the institutional framework, and include the lack of a regulatory framework of the activities related to social networks, and a lack of policies governing the release of information. They also predicted that the openness of governments and the bureaucratic process for responding to citizen needs could be problematic for social network performance. Other risks are related to identity and information theft.

In the case of risks related to interorganizational collaborations and networks, participants think that the lack of communication among participants and bureaucratic operating methods in the levels

Table 2
Perceived benefits associated with social media.

<p>1. General context</p> <ul style="list-style-type: none"> • Contribute to encourage citizen's participation culture (11) • Contributing to change the image that citizens have about the government, as a friendlier one (2) • Allow feedback (4) • Provide legitimization and credibility (5) • Encourage effective collaboration between citizens and government (3) • Enable better communications between government and citizens (2) • Respect the time spent by citizens to obtain services • Elicit more honest responses from participants • Increase confidence in the networks already established in comparison with own efforts (2) • Urge governments to act in that way: they have no other options; they should go into social networks since it is already a reality 	<p>4. Organizational structure and processes</p> <ul style="list-style-type: none"> • Act as direct communication channel between the citizen and the government, in a more friendly way (18) • Contribute to lower costs and maximizing resources of the operations performed: Generating indirect savings due to better communication, improving the review of specific issues or projects, government services and products, promoting tourism, civil protection, surveys, pamphlets, and newsletters (7) • Allow the inclusion of citizens in the generation of content and information (e.g. YouTube, videos and comments to the videos, distribution and access to culture) (4) • Through user segmentation, we can know what information is required and when (3) • Source of information to improve decision making (3) • Allow governments to increase the knowledge about citizens (2) • Attention to other kinds of users not reached before (2) • Well-targeted specific services that benefit the end user (2) • Web 2.0 helps to improve the management and dissemination of information as digital information platforms require orderly and competent processing (2) • In economic terms, the implementation does not require much investment (2) • It is important to determine the type of messages • It is useful to establish benchmarks in order to know where to go • It implies training
<p>2. Institutional framework</p> <ul style="list-style-type: none"> • Allow for more transparent governments over the long term, creating better informed, more demanding, future voters generating political capital because of accountability and transparency (3) • Promote human rights thanks to a better freedom of information, freedom of speech and accountability 	<p>5. Information and data</p> <ul style="list-style-type: none"> • It is faster and more user friendly for dissemination and transmission of information and content (3) • Serve as a tool for purposes of data collection or data compilation • Enable updating of information • Citizens can have information in less time, can be more informed, participate more, but also require more services
<p>3. Interorganizational collaborations and networks</p> <ul style="list-style-type: none"> • Could create a network, enabling the transfer of best practices between organizations (9) • Act as a media enabling the opening of interconnections between institutions • Increase network interconnections • Support to community 	<p>6. Technology</p> <ul style="list-style-type: none"> • Scalability of the system • Free tools

of the government could negatively impact the collection of data and information to improve responses.

Regarding organizational structure and processes category, they think that a risk could be to initiate the project without a good planning of the strategy, objectives and the role of the government. They are also concerned about having people with the knowledge to respond to citizens' complaints. In the case of information and data category, participants were worried about the reliability, integrity, and validity of the information. They also wanted the establishment of a process to organize, shape, and distribute the information.

Finally, in the technology category, they are concerned about having the right computers to manage the social network, the reliability of the network, and they also point out about the differences in

Table 3

Strategic components related to social media use in government.

1. General context	4. Organizational structure and processes
• Continuous context monitoring	• Assess citizen's needs (3)
• Creating a digital space from the social space	• Identify target audience(s) (3)
• Accept the challenge for direct citizen communication and collaboration (3)	• Map target audiences with relevant government information
• Promote citizen trust	• Understand problem and context (2)
• Promote social networks use among citizens	• Define a strategy (contents, goals, benefits, measurement, success indicators) (8)
• Include technology use in basic education	• Define a strategy to promote participation
	• Risk assessment (2)
	• Assess the creation of a new social network vs. an existing one
	• Start with one specific program and then expand – maybe internal to government (3)
	• Define joint efforts
	• Change government mindset
	• Use citizen language (3)
	• Assign resources (2)
	• Training program
	• Review and update processes (6)
2. Institutional framework	5. Information and data
• Include strategy in formal government plans	• Organize government information (4)
• Define ethics codes and social networks use regulations for both citizens and public managers (4)	• Organize information from citizen's perspective
• Review and updating legal framework (3)	
• Make a clear distinction between social media and FOIA requests	
• Establish specific regulations in each agency including moderating policies or response times (5)	
3. Interorganizational collaborations and networks	6. Technology
• Build capacity to inter-agency collaboration (2)	• Identify best tools (2)
• Share practices	• Renew infrastructure
• Integrate processes from content creation to delivery	• Define platform
	• Internet infrastructure for citizen access
	• Create prototypes (2)

technological infrastructure available in the municipalities; this could result in some areas of the government being not able to participate in the social network. Another issue is the access of citizens to computers and internet.

Table 2 shows the benefits that the participants of our study perceived in implementing social media in the public sector. In terms of the general context, our respondents considered that one main benefit was to develop a culture of citizen participation. Another advantage identified at this point was related to the improvement of the political image of governments, through better feedback; better collaboration and communication, legitimizing their decisions and giving them more credibility.

Considering the benefits in terms of institutional framework, social media appeared as a critical factor for public policy because it was perceived as allowing transparency in governments and promoting human rights such as freedom of speech.

One important benefit of social media referring to interorganizational collaboration and networks is that it could enable a better knowledge management between private and public organizations, allowing the transfer of best practices. This could have as a consequence the provision of better services for citizens and the improvement of governments' administrative capabilities to solve problems.

The respondents of our study mentioned consistently that in terms of organizational structure and processes, social media could change traditional and rigid forms of communications allowing direct channels of communication between the citizen and the government and the inclusion of citizens in content development. These changes

in communication channels, due to the use of social media, could increase the performance of public organizations because of a lower cost and efficiencies in managing resources.

One important benefit of social media in terms of information and data is that they were seen as tools for data collection, enabling transmission and updating of information and contents. In terms of technology, the main perceived advantage of social media was their compatibility with different systems, and their scalability. Moreover, they were considered as free and already-tested tools.

Finally, Table 3 includes the main strategic components associated with social network use in the government. In terms of the general context, participants suggested as important components of any strategy the continuous monitoring of the context. That is to say, to continuously review comments and data related to government and government programs in the social networks. A second element to consider consists of government promotion of social network use by citizens.

In terms of the institutional framework, participants consider that updating and creating proper regulations to incorporate electronic social networks as part of the communications strategy is a key component. Moreover, such a component needs to include an ethics code and regulations for users. Some others considered that social media needed to be included as a component in formal state and local government plans.

In terms of interorganizational collaboration, capacity building, process integration and sharing practices were the three components established by workshop participants. There were several components of organizational structures and processes. First, several comments were related to the understanding of problem context and audiences. On this basis, government will be much better prepared to define goals, contents, measurement systems and indicators of success. Assigning resources, training and continuous reviewing of strategies are also included in this category.

The information and data category includes as strategic guidelines to organize public information from the citizens' perspective. Finally, in the technology component, participants called for an infrastructure renovation, and for the analysis of technology options to identify the best tools. Such a process should involve the creation and evaluation of prototypes.

5. Discussion and conclusions

Although participants in the study visualize several risks related to the implementation of social networks, they agree that several benefits may result from its use. These risks and benefits frequently were two sides of the coin. For example, one of the perceived benefits of social networks consists of increasing citizens' trust on the government and to improving the face of government. The risk of this benefit is that opening up information may indeed increase mistrust in government. In other cases, benefits appear to be a solution to an existing problem. For example, participants identified as a risk the culture of general criticism to government activities and results, which they think is a result of lack of information of government achievements. In this case the use of social networks may increase the knowledge of citizens about government's achievements and may also reduce criticism of government practices.

Additionally, by looking at the different statements of perceived risks and benefits, it is possible to identify some areas of disagreement among participants. For instance, they perceive that social media use will change the culture of citizen participation, but at the same time they fear that they will lose control over the information. At the same time, they are hoping for improved quality and quantity of contact with the citizens both in quality and quantity, but they fear the lack of organizational capacities to respond to this increased communication.

Consistent with the literature, participants acknowledged the importance of a good strategy for implementing social networks (Dadashzadeh, 2010). Participants indicated some components related to the general

context, in terms of desired future public service value, such as the promotion of social networks use among citizens. In terms of technology, the establishment of an inventory of IT capabilities and emerging technologies was considered as important for participants: identifying best tools, defining the platform and creating prototypes. As far as the institutional framework is concerned, participants identified aspects related to social media governance: social networks, use of regulations and legal framework. The majority of these observations belonged to the area of organizational structure and processes, which is common in this kind of exercise. This fact reflects the importance that participants assign to the reorganization of government structures. It also may indicate the perceived lack of an infrastructure to deal with citizens' complaints, or the perceived lack of personnel with the skills to use these tools. This set of concerns also stresses the importance of clear guidelines for government employees' use of social media.

It is also important to note that the institutional component is very important to develop social media applications in the government. Participants described the importance of creating or updating laws and regulations, and of promoting changes in government culture and practices.

To participate in social networks, governments have two options: to include this functionality in their own sites, or to use sites like Facebook or Twitter. From the comments of the participants we found that governments do not have a clear strategy, although current trends point to create mash-ups of public social media sites with the government portals. Moreover, participants agreed that monitoring commercial networks is an important strategic way to understand context and citizens.

It is also interesting that information and data were rather important in discussions of risks and benefits, referring to quality attributes of data such as reliability, integrity, accessibility or validity. However, these elements were not present in discussions of strategic alternatives, where participants focused on information organization.

Some basic strategic guidelines for governments that could be extracted from the focus groups:

1. Be aware of the context. It is important for the government not only to incorporate social media into its practices, but also to monitor information and comments about the government on social media sites.
2. Understand the problem. Governments need to understand the problem that is to be solved by social media applications.
3. Develop a plan. Governments need to reflect the strategic objectives of social media use, and adjust practices and processes accordingly. This plan should be incorporated into formal government plans.
4. Develop guidelines for use of social media. Government employees require general guidelines for using social media at work and in their private life.
5. Build capacities. Employee training, process integration, and capacities for interorganizational collaboration and knowledge sharing will continuously improve the use of social media.

Workshops like the ones described here are important social spaces where public servants can reflect on problems and alternatives to implementing IT strategies and on the measures for success. If participants in this study decide to implement social networks they will do it with a better sense of what needs to be planned. In this case they will have more opportunities to be successful.

These results are consistent with the literature in terms of the risks perceived to start social media projects. In other words, the importance that participants gave to strategic components and legal and regulatory frameworks as important enablers/barriers of the use of social media in the government have been previously reported in the literature (Dadashzadeh, 2010). Moreover, participants' concerns about quality and reliability of the information in the social networks as well as privacy concerns are also recurrent themes in governments' implementation of social media (e.g. Bertot et al., 2012; Bryer & Zavattaro, 2011; Landsbergen, 2010; Sherman, 2011). We learn that

some risks identified by participants are context-specific and were not among the issues mentioned by authors of previous studies. Some of them include the incompleteness of the technological infrastructure of government offices, the limited number of citizens that could be benefited from social media implementations, and the lack of training for employees to use these tools. In countries like Mexico, not all government offices have the technology and the internet access to implement social media. With only 30% of the population having internet access, the effect of social media on citizens' communications is limited. This could have both advantages and disadvantages as governments may implement social media and learn incrementally to cope with this functionality as internet access becomes universal. Finally, capacitation schemas must be developed to teach social media functionality to government officials.

The main perceived benefits associated with social media reported in this paper are similar to those identified in the literature (Chang & Kanan, 2008; Chun et al., 2010; Cromer, 2010; Dorris, 2008; Kuzma, 2010; Landsbergen, 2010). Participants agreed that social media in the general context category improves efficiency, allows better communications between the government and the citizens as well as trust and democracy; in addition, it is a source of legitimization and credibility. In the information and data category, it provides a better user convenience for the dissemination and transmission of information and content. As far as the institutional framework category is concerned, it encourages transparency and accountability; it helps voters to raise their expectations; and, in relation to citizen involvement, it contributes to a better organizational structure and processes, allowing the inclusion of citizens in the generation of content and information. In addition, other benefits of social media reported by participants pertained to technology: scalability and free tools, interorganizational collaborations and networks, allowing the transfer of best practices and intensification of network interactions.

Another important finding is the lack of a regulatory framework in Mexico to govern the use of social media. Countries like the U.S. have developed policy instruments such as Policies for Federal Agency Websites (OMB Memo M-05-04), and E-Authentication Guidance for Federal Agencies (OMB Memo M-04-04) (Bertot et al., 2012).

This study has several limitations, one of which is that we did not include participants from all regions of Mexico. However participant states represent about 30% of the total population in the country. Another limitation is that the some findings are context-specific. The Mexican government has a bureaucratic image and a reputation for wasting its resources. So, risks, benefits, and strategic components found in the study could be the result of the political and organizational conditions of Mexico's government. However, we think that these results confirm the findings of previous studies. We also identified several issues that could be interesting for several Latin American countries that are similar to Mexico.

Future research can focus on specific projects in the Mexican government to better understand strategic objectives, institutional frameworks and results. Such research will have an impact on the development of better strategies to include social media in the government. For practice, we believed that participants in this study are pointing in the right direction in proposing a clear and strategic design of social media applications. Moreover, as one of them stated in the workshop, electronic social networks and other social media are here to stay, and governments need to start using them to have a more active participation in shaping the new ways of interacting between individuals and organizations, changing power relations, governance and democracy.

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