

# Chapter 2

## Social Media-based Government Explained: Utilization Model, Implementation Scenarios, and Relationships

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**Abstract** Due to the lack of understanding regarding social media-based government, many practitioners around the globe (particularly those in the developing world) are reluctant or unable to develop strategies and allocate resources to social media-based government. The main purpose of the research is to address this gap in knowledge and understanding by presenting and illustrating fundamental concepts of social media-based government. A web survey of 200 government website from 40 countries and 45 Web 2.0 initiatives across the globe was used to present and illustrate fundamental concept of the social media-based government: utilization model, implementation scenarios, and the relationships it can hold with the citizens.

### 2.1 Introduction

Although it is believed that the social media-based government (SMBG) will finally fulfill the promise of a truly transparent government (Chun et al. 2010), many practitioners (particularly ones in the developing countries) are reluctant or unable to develop strategies and allocate resources to SMBG. As a result, governments around the world ignore or mishandle the opportunities and threats presented by the SMBG (Luna-Reyes and Chun 2012). One reason for this is that the current literature does not provide a coherent framework to explain SMBG. While models of SMBG are emerging (Linders 2012; Lee and Kwak 2012; Mergel and Bretschneider 2013), it is crucial to provide a coherent framework based multiple case studies both from developed and developing countries perspective.

To help address this gap in knowledge and understanding, this chapter provides a more holistic view of the social media-based government from the citizens' perspective taking into account several SMBG initiatives and cases. Using a web survey of 200 government websites from 40 countries (20 for each advanced and developing countries) (Chua et al. 2012) and 45 Web 2.0 initiatives from around the world,

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we suggest a three stage social media-based government (SMBG) model starting from information socialization (stage 1), and then moving on to mass collaboration (stage 2), and social transaction (stage 3). The SMBG model presented in this study is helpful in understanding social media use in public sector from the citizen's perspective. Based on the web survey, we also suggest three SMBG implementation scenarios (i.e., standalone, nested, and hybrid implementation) and the relationship that SMBG may hold with the citizens.

The rest of the chapter is organized as follows. In the next section, is an overview of the Web 1.0, Web 2.0, social media, and social network sites (SNS) (the phenomenon, technologies, and systems at the core of the ICT based governments); followed by some discussion on the e-Government and social media-based government. Next the methodology employed in this research is discussed followed by the main findings.

## **2.2 The Confusion: Web 1.0, Web 2.0, Social Media, and SNS**

Going through the literature, there seems to be some confusion related to the Web 1.0, Web 2.0, Social Media, and SNS (Kaplan and Haenlein 2010): the platforms at the core of ICT based governments. This section will attempt to clarify this confusion.

At the core of the Internet (the global network of interconnected devices) are several technologies (hardware and software) and one such techniques is the World Wide Web (WWW) or simply the "Web" which is an arrangement of interlinked hypertext documents (i.e., websites) that can be accessed through the Internet (Berners-Lee 1993). An early version of the Web is called Web 1.0 or a "read-only web" as named by Berners-Lee; the founder of the early Web (Berners-Lee 1993). At the core of the Web 1.0 are static technologies which allow only one way information flow or communication and users could only view the content, but could not contribute contents. Thus, making websites based on Web 1.0 as presentational of contents and not generative.

The limitations of the Web 1.0 are seemed to be overcome by the Web 2.0; a term first used to describe web technologies beyond the static pages of earlier web sites (O'Reilly 2007). Unlike Web 1.0, at the core of Web 2.0 is two-way information flow and user generated contents (O'Reilly 2007; Kaplan and Haenlein 2010; Kietzmann et al. 2011). Thus, this makes the Web 2.0 as presentational as well as being a generator of user generated contents (UGC). The fundamental principles of Web 2.0 are openness, participation, and sharing. In the Web 2.0, the end user is not only a user of the application/system/web, but also an active participant by using a variety of tools including, podcasting, blogging, tagging RSS-generated syndication, social bookmarking, social networking, wikis, and other collaborative tools.

When we talk about Web 2.0, social media comes into mind. Social media and Web 2.0 are often use interchangeably. However, there is a slight difference

between social media and Web 2.0 (Kaplan and Haenlein 2010). Social media is an application of the Web 2.0 concept. At the core of social media is Web 2.0 concept, in other words, social media is realized based on Web 2.0 concept. Furthermore, Web 2.0 is not a technical standard or an update to the early standard (i.e., web 1.0), but it reflects the changes in the way people use the Web. According to Kaplan and Haenlein (2010, p. 61) social media 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.” Social media consists of a variety of tools and technologies that includes collaborative projects (e.g., Wikipedia and wiki-spaces), Blogs (e.g., WordPress) and microblogs (e.g., Twitter), content communities (e.g., YouTube), social networking sites (e.g., Facebook and Cyworld), folksonomies or tagging (e.g., delicious), virtual game worlds (e.g., World of Warcraft), virtual social worlds (e.g., Second Life), and all other internet-based platforms that facilitate the creation & exchange of UGC. All these social media tools are built on Web 2.0 philosophy, but they differ according to the extent to which they focus on the relationships among social actors, users’ identities, conversations among social actors, content sharing, social presence (the ability to know if other users are accessible), reputation management, and the extent to which people can form groups (Kietzmann et al. 2011)<sup>1</sup>. For example, a *social network site* is a type of social media that focuses mainly on social relationships among social actors and YouTube is a type of social media that mainly focus on the sharing of contents (e.g., videos).

Another two terms/concepts usually confused are social media and SNS. A social network service or site is an internet-based platform that is used to build and maintain social relations among people who share interests, activities, backgrounds, or real-life connections. Boyd and Ellison (2007, p. 1–2) defined the SNS as, “web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system.”

SNS is an example of the application of social media i.e., all SNS are social media, but not all social media are SNS. For example, Facebook is an SNS (i.e., facilitate online social networking) and is based on Web 2.0 concepts (i.e., social media & UGC), however, Wikipedia is a type of social media (focused more on online collaborative content creation), but not an SNS (i.e., does not facilitate online social networking). Similarly, all SNS are based on Web 2.0, but not all Web 2.0 are SNS and all social media are based on Web 2.0 concept.

To sum up, based on the above discussion, social media can be defined as, “an Internet based technologies/tools/concept—allows the creation and exchange of user-generated content while letting users establish (at least one of these) identity,

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<sup>1</sup> More discussion on how social media tools differ can be found in Kietzmann et al. (2011)’s study: Kietzmann, J. H., Hermkens, K., McCarthy, I. P., Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, 54(3), 241–251, ISSN 0007-6813, 10.1016/j.bushor.2011.01.005.

conversations, connectivity (i.e., presence), relationships, reputation, groups, and share contents” (Khan 2013, p. 2).

### 2.3 E-Government, Government 2.0, and Open Government

At its current stage, use of technology in public sector can be conceptualized at least in three different ways: electronic government, government 2.0 (i.e., social media-based government), and open government. Electronic government or e-Government—the use of ICTs in the governance process—is one of the most widely studied mediating phenomena of the late 1900s (Jean and Juri 2000; Layne and Lee 2001; Silcock 2001; Heeks and Bailur 2007; Irani et al. 2007; Yildiz 2007; Isfandyari-Moghaddam 2011; Khan et al. 2011; Khan et al. 2012a; Zheng et al. 2012). Investment in the e-Government, also known as Government 1.0, seems to have enabled government to be more transparent, effective, and efficient, while accelerating socio-political and economic development. However, the e-Government initiative was mostly (at least at its initial stages of development) based on static ICTs and web 1.0 phenomena, thus having limited opportunities for citizens to openly interact with their governments (Pina et al. 2009; Chun et al. 2010). For example, e-Government can be instrumental in keeping citizens connected with the government, but not engaged.

For implementing a truly open, transparent, and participative government, researchers are looking for a more participative inter-mediatory technology that provides more opportunities for the citizens/business to openly interact with government. Social media seems to be one such intermediary. Social media is becoming an emerging medium for interaction between governments, government & citizens, and other governmental agencies & businesses (Sandoval-Almazan and Gil-Garcia 2012). Government that is driven by social media is called Government 2.0 (Eggers 2005), collaborative government (McGuire 2006; Chun et al. 2012), do-it-yourself government (Dunleavy and Margetts 2010), government as a platform (O’Reilly 2010), Social Government (Khan et al. 2012b), or we-Government (Linders 2012). In contrast to its predecessor (i.e., e-government or government 1.0), which focuses on the information delivery, SMBG is an idea that calls on harnessing the power of Web 2.0 concepts and social media tools/technologies to implement a true open, transparent, and participative government (Bertot et al. 2010, 2012; Luna-Reyes and Chun 2012). Khan (2014) defines SMBG as “a governance culture of transparency, openness, and collaboration facilitated by social media” (Khan 2013, p. 8). Regardless of the competing labels, the basic idea of SMBG calls on harnessing social media technologies/tool in the governing process (Dadashzadeh 2010; Mergel 2010). The Australian Government 2.0 Taskforce (2010) define SMBG or Government 2.0 as, “Government 2.0 or the use of the new collaborative tools and approaches of Web 2.0 offers an unprecedented opportunity to achieve more open, accountable, responsive and efficient government.” (The definition is available

here: <http://www.finance.gov.au/publications/govresponse20report/index.html>.) Maio (2009, p. 2) defined it as, “the use of information technology to socialize and commoditize government services, processes and data.” It is believed that social media and web 2.0 tools can good governance at various levels, including government-to-government (G2G), government-to-citizen (G2C), government-to-business (G2B), and government-to-employee (G2E) relationships (Khan et al. 2012b; Sandoval-Almazan and Gil-Garcia 2012).

A third form of government made possible by technology is Open Government (Patrice 2010). While e-government is about transforming internal process and SMBG leverage social media, open government is more about the concept of opening government data to public (employing variety of technologies). Under the umbrella of open government, governments open massive amount of data to public letting them to innovate with it. Examples of open government include President Obama’s open government initiative.

## 2.4 E-Government vs. SMBG

E-Government and SMBG can be slightly differentiated in three ways. First, from a technological point of view, e-Government is fundamentally based on the static enterprise and domain specific technologies and Web 1.0 phenomenon, while SMBG is based on the Web 2.0 concept and driven by consumer and commoditised technologies (Maio 2009). Second, from a strategy point of view, e-Government focuses on an inside-out approach: transforming and employing internal government resources to service citizens, business, and other government agencies; while SMBG is based on an outside-in approach: harnessing external resourcing (e.g., social media collaborative technologies and crowd sourcing) to service citizens, business, and other government agencies. Third, in a SMBG settings, the end user is not merely a user of the e-Government services, but also an active participant (Linders 2012) by using a variety of Web 2.0 tools, including podcasting, blogging, tagging RSS-generated syndication, social bookmarking, social networking, wikis, and other collaborative tools (this concept is discussed later in the SMBG relationship section).

## 2.5 Methodology

### *Web Survey*

A Web survey of 200 government website from 40 countries (20 each from advanced and developing countries) was used to look for the extent of Web 2.0 utilization in their governmental institutes. A total of five government agency websites for each country were analyzed. The websites were from the common government

agencies in each country i.e. education, environment, finance, health, and justice. The list was originally compiled using a comprehensive methodology by Chua et al. (2012) for their study on Web 2.0 applications in the government sector.

The 200 hundred websites were manually searched for the presence of the various Web 2.0 applications during September and October 2012. Based on the Chua et al. (2012)'s categorization, the Web 2.0 use in public sector was categorized into seven categories (social networking services (SNS) (e.g. Twitter and Facebook); multimedia sharing services (MSS) (e.g. YouTube); discussion forums (DF); blogging (B); wikis (W); rich site summery (RSS); and 7) social tagging services (STS). In order to establish the presence or absence of the Web 2.0 application in the selected websites the seven variables were coded either as "yes" or "no".

### ***Web 2.0 Initiatives***

In addition, a web survey of existing 45 innovative Web 2.0 initiatives in the public sector from around the world was used (details are omitted for the sake of length considerations; the list of Web 2.0 initiatives is available at request). The initiatives were classified into 6 domains of government activities, namely, regulation, cross-agency collaboration, knowledge management, political participation and transparency, service provision, and law enforcement (Osimo 2008). Each initiative was assessed based on a coding scheme covering four dimensions/variables: (1) citizens' engagement, (2) mass collaboration, (3) social transaction, and (4) Web 2.0 complexity. The variables reflect the previous research on the social media use in public sector that categorized social media use in public sector as informational, collaborative, and limited transactional (Brainard and McNutt 2010; Bonsón et al. 2012; Khan et al. 2012b; Sandoval-Almazan and Gil-Garcia 2012). The variables were coded as: (1) low, (2) medium, and (3) high to access the five dimensions of the Web 2.0 initiatives in public sector.

## **2.6 Results**

Social media use in public sector can be conceptualized as shown in the Fig. 2.1. The conceptualization is achieved through an inductive approach (Thomas 2006) i.e., the processing of moving from specific observations to broader generalizations and theories. In other words, the target websites and cases were observed and evaluated as explained above; and usage patterns and regularities were detected leading to the social media conceptualization model. In the middle of the Fig. 2.1 is the social media pipe (i.e., social media tools/technologies) connecting producer and consumer or prosumers (i.e., government agencies, citizens, and businesses) where the government services are co-produced that flows in both directions making government and citizen partners in the delivery of public services (Linders 2012) (the

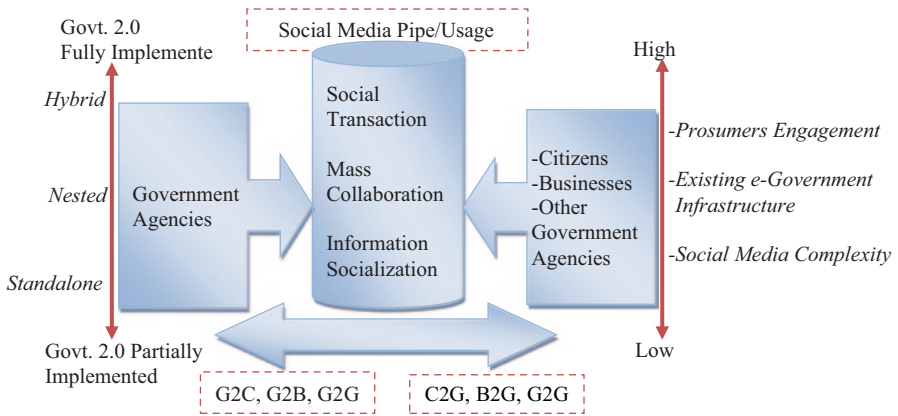


Fig. 2.1 Conceptual model of social media use in public sector. (Source: Khan 2013)

concept of the co-production is explained later in the chapter). Leveraging social media pip/tools co-production of services occurs mainly in three stages/ways (i.e., information socialization, mass collaboration, and social transaction) dependant on the existence of e-Government infrastructure, Web 2.0 complexity, and prosumers engagement (We call it SMBG model). *Information socialization stage* is instrumental in keeping citizens engaged and informed through social media channels (e.g., podcasting, blogging, tagging, RSS-generated syndication, social bookmarking, social networking, and wikis, etc.) and requires little existing e-Government infrastructure to initiate. The *mass collaboration stage* is helpful in establishing collaboration with citizens and cross-agency collaboration utilizing a variety of social media tools, while social transactions are carried out in the *social transaction stage* i.e., stage 3 and requires existing e-Government infrastructure, high level prosumers engagement, and complex Web 2.0 portals. The SMBG stages are explained (with examples) below in detail. The Fig. 2.1 also shows the SMBG is implemented scenarios: standalone, nested, and hybrid and the type of the relations it holds with the citizens. The implementation scenarios and relationships are explained later in details.

### SMBG Model Stages

#### SMBG Stage 1: Information Socialization

At stage 1 i.e., information socialization stage, public sector employs Web 2.0 and social media tools mostly for informational and participatory purposes. Social media is used by public sector as an informational and participatory channel to increase citizen’s awareness and enable them to monitor and participate in government activities (Osimo 2008). In other words, the government information is socialization (Maio 2009).

The information and participatory uses of social media were as simple as merely incorporating social media tools in the existing government website and establishing dedicated social media pages (e.g. Facebook fan page or twitter account) to delivery day-to-day information/news to the citizens. Or they were as complex as establishing advance social media based informational government portals for informational and participatory purposes (such as [www.chicagocrime.org](http://www.chicagocrime.org), <http://openlylocal.com/>, and <http://www.farmsubsidy.org/>).

The simple informational and participatory use of social media was prevalent in most of the countries under study and requires limited existing e-Government infrastructure and financial resources (e.g., the government only rely on existing social media technologies/tools). This brings a huge advantage to the developing or least developed countries that lack resources (e.g., financial and technical) to establish an online presence and connect to citizens using social media tools.

However, developing advance social media based informational and participatory government portals (such as <http://maplight.org/> and <http://www.data.gov/about>) requires expertise, financial resources, and existing e-Government infrastructure (as it is only observed in advanced economies). The School Information Service (SIS) initiative by the Ministry of Education of Singapore is a good example, of the advanced social media based government portals to keep citizens informed. The SIS (<http://app.sis.moe.gov.sg/schinfo/index.asp>) allows parents and students to keep track of the nationwide school by getting instant access to a variety of information such as basic school information, school location, contact details, and school achievements.

## **SMBG Stage 2: Mass Collaboration**

Stage 2 of SMBG is mostly focused on enabling mass social collaboration and crowd sourcing. At this stage, government and the citizens not only talk, but collaborate also. Social media and Web 2.0 are used to foster collaborations between the government and government & citizens and other governmental agencies & businesses at different levels. Particularly, mass social collaboration was found to be instrumental in crowd sourcing, regulation, law enforcement, and cross-agency collaborations. The mass collaboration stage goes beyond merely incorporating social media tools into government websites and requires harnessing dedicated tools, expertise, and existing e-Government infrastructure.

The collaborative use of social media was visible at different levels, such as, collaboration between government and citizens and cross agency collaboration. For example, the Peer-To-Patent ([www.peertopatent.com](http://www.peertopatent.com)) initiative by the Patent and Trademark Office (USPTO) of the United States is a good example of mass government and citizen social collaboration in reinforcing regulations. Similarly, Korean government agencies have developed a number of smart phone apps to foster mass collaboration between the government and citizens in the areas such as tourism ([http://english.visitkorea.or.kr/enu/HD/event/enu\\_20120925/enu.html](http://english.visitkorea.or.kr/enu/HD/event/enu_20120925/enu.html)) and law enforcement.



### **SMBG Stage 3: Social Transaction**

The Social transaction stage takes SMBG beyond information sharing and collaboration by enabling transaction carried out through social media channels. At this stage, using Web 2.0 platforms, government and citizens talk, collaboration, and transact. Social media is used to provide online service to the citizens. The Social transaction stage is mostly observed in advanced economies where e-Government readiness is high, such as South Korea, the Netherlands, the United Kingdom, Denmark, and the United States (UN 2012). In the real sense, a true social transaction stage has yet to be realized i.e. social media integrated public services are still limited (e.g. using Facebook to provide tangible services to citizens such as renewing drivers licence and paying partaking tickets). However, governments around the world seem to be committed in slowly harnessing social media to deliver some services. For example, the U.K. government use a Web 2.0 based website ([www.gov.uk](http://www.gov.uk)) to provide simple, one-stop access to government services online (e.g. services related to housing, tax, driving test, passport, births, deaths, marriages and care).

The Delaware state government through its “social media hub” (<http://www.visitdelaware.com/socialmediahub/>) provide a variety of tourism related service (e.g. hotel info, weather updates, travel guide, event calendar, maps, attractions, videos, and pictures, etc.) to citizens by integrating several Web 2.0 and social media tools, including Twitter, Facebook, YouTube, Blogs, Flickr, and Google maps into a single platform. “Fixmystreet” is yet another example of using social media for service delivery (<http://www.fixmystreet.com/>), where citizens use an interactive portal to report a problem related to their locality (e.g. fly tipping, broken paving slabs, or street lighting) which is then forwarded to the council to fix the problem.

### ***SMBG Implementation Scenarios***

There are several ways in which SMBG can be realized. Based on the web survey, three main ways in which SMBG is implemented were observed: Standalone SMBG, Nested SMBG, and Hybrid SMBG. Standalone SMBG is mostly observed in the developing and least developed countries where e-Government is not yet fully functional; nested government is observed in the countries having established e-Government infrastructure; and hybrid government is an advanced form of SMBG relying heavily on a variety of technologies including Web 2.0 and is mostly often observed in the advanced economies listed on top of the UN’s e-Government readiness index. Below is an explanation of each of the scenarios in detail.

#### **Scenario 1: Standalone SMBG**

In the standalone implementation scenarios, informational SMBG (i.e. stage 1) can be implemented directly under traditional government settings (i.e. paper based government). This unlikely scenario reflects the countries around the world (e.g.

Zimbabwe, Rwanda, and Fiji) where e-Government is not yet fully implemented (UN 2012) and who can take full benefit of social media in establishing online presence and initiating two way communications with citizens. For example, governments with limited resources and access to the internet can use social media channels (e.g. Facebook fan pages and Tweets) to disseminate/provide/link information, news, and events to the public. Implementing a standalone SMBG may require limited resources, such as, a couple of computers with Internet access and some skilled employees to manage the social media related communication.

### **Scenario 2: Nested SMBG**

Scenario 2 is the most likely scenario where SMBG is realized under the umbrella of e-government. This scenario was mostly observed in the developing and transitional economies (e.g. Estonia, India, Pakistan, Kazakhstan, Lithuania, Poland, South Africa, and Thailand). Under this scenario, governments funnel existing e-Government infrastructure and capabilities to leverage social media tools in the day-to-day governance. By utilizing/leveraging existing e-Government infrastructure, SMBG is implemented either partially (e.g. in the case of developing countries): implementing information socialization or mass collaboration stages, or it is implemented in full swing: implementing information socialization, mass collaboration, and transactional stages (e.g. in the case of transitional economies). SMBG is partially implemented in the developing countries by merely incorporating social media technologies (e.g. RSS feeds, discussions features) into their existing e-Government websites or by establishing visible social media presence (e.g. through using dedicated Facebook and Twitter pages/accounts).

### **Scenario3: Hybrid government**

Hybrid government is the ideal scenario where all governments will eventually evolve to and where some have already reached. This type of government is observed in advanced economies, such as South Korea, the Netherlands, the United Kingdom, Denmark, and the United States who has already made significant achievement in the e-Government (UN 2012). Utilization of different technologies and concepts (e.g. existing e-Government technologies, Web 2.0 and mobile technologies) in the governance process leads to a hybrid form of government. The hybrid government incorporates social media technologies in the governance process by leveraging the existing e-Government infrastructure and mobile technologies.

### ***Relationships in SMBG***

Alongside G2C, G2B, and G2B relationships, SMBG also holds citizens-to-government (C2G) relationships (Linders 2012): with a different set of relationships with the citizens where the roles of government and citizens are interchangeable. Unlike



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