

# Models for Social Media-Based Governments

Gohar Feroz Khan

*Assistant Professor, School of Industrial Management, Korea University of Technology & Education (KoreaTECH), Korea*

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## ABSTRACT

Public sectors around the world utilize social media tools and technologies in their daily activities for a variety of purposes, including disseminating useful information, fostering mass collaboration, and enforcing laws and regulations. A number of social media-based government stage models have emerged to document this use. In this chapter, we conducted a qualitative meta-synthesis of four social media-based government models. These models include 1) the open government maturity model, 2) the social media utilization model, 3) the adoption process for social media, and 4) the social media-based engagement model. The concepts, metaphors, and themes contained in these developmental models are extracted through a series of in-depth semantic analyses of descriptions, resulting in a common frame of reference.

*Keywords:* Social Media, Social Media-Based Government Models, Common Frame of Reference

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## I . Introduction

Public sectors around the world are using social media in their day to day activities for different purposes, such as the dissemination of useful information, the fostering of mass collaboration, and the enforcement of laws and regulation (Khan, 2015; Osimo, 2008). In the literature, different labels are used to describe the use of social media in public sector, such as Government 2.0 (Eggers, 2005), Do-it-yourself Government (Dunleavy and Margetts, 2010), Collaborative Government (Chun et al., 2012; McGuire, 2006), Government as a Platform (O'Reilly,

2010), Open Government (Patrice, 2010), Social Government (Khan et al., 2012), or We Government (Linders, 2012). Despite the variety of labels used, the primary purpose of leveraging social media tools/technologies in the public sector is to make the governments more transparent, open, accessible, and collaborative. Social media is and expected to play a critical role in public sector governance in the future.

While governments from around the world are actively incorporating social media into their day-to-day activities, researchers are studying this phenomenon and have proposed a number of social

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\*Corresponding Author. E-mail: [gohar.feroz@kut.ac.kr](mailto:gohar.feroz@kut.ac.kr) Tel: 82415601415

media usage models in the public (Khan, 2015; Khan and Swar, 2013; Lee and Kwak, 2012; Mergel and Bretschneider, 2013). These and previous e-government models (Andersen and Henriksen, 2006; Khan et al., 2011; Layne and Lee, 2001) serve as guidelines for policy instrumentation and further research. However, despite its value, like e-government models (Lee, 2010), social media usage models found in the literature also seem to incorporate different perspectives and assumptions that seek to explain social media use in the public sector. Such divergence in perspective and metaphors cause unnecessary confusion and make it difficult for policy makers to successfully leverage social media use. Therefore, this paper, using a qualitative meta-synthesis, presents a common reference framework to understand social media models available in the literature. The rest of the paper is organized as follows. Next section introduces the research mythology used in the study which is followed by the main findings and a subsequent discussion section.

### 1.1. Overview of the Social Media in Public Sector

Social media use in the public sector can be mainly attributed to the potential benefits it brings, such as the financial and administrative ease to disseminate useful information, engaging in two way communications with citizens, and the outsourcing of government services. In light of the research on social media use in the public sector (Chun et al., 2012; Dunleavy and Margetts, 2010; Eggers, 2005; Khan et al., 2012; McGuire, 2006; O'Reilly, 2010; Patrice, 2010), the potential benefits social media brings to the public sector can be grouped into five categories: 1) sharing; 2) participation; 3) openness; 4) mass collaboration; and 5) two-way communications (Khan, 2015). Social

media channels (e.g., Twitter, Facebook, wikis, YouTube, and blogs) provide a very cost-effective means of disseminating and sharing useful information (e.g., news, alerts, and updates) to a large number of people instantly (Khan, 2015). On the other hand, citizens participate in policy and decision making using comments and feedback expressed through social media channels. Citizens and police departments, for example, use online tools for reporting crimes and other unacceptable behavior. One good example of such services is 'MyBikeLane,' a citizen led initiative for reporting illegal car parking or 'Caughtya,' a Web 2.0 website for reporting illegal car parking in disability parking spaces. Social media channels also facilitate openness when citizen are given unrestricted access to government structured data and information opened through social media and web 2.0 channels. The greatest benefit from using social media and web 2.0 platforms is realized when these platform are used for mass collaboration purposes where government and citizens work together in a many-to-many context to achieve certain shared goals. Take an example of the "Adopt a Fire Hydrant" initiative (<http://adoptahydrant.org/>), an online crowd sourcing platform where ordinary people take responsibility for digging out a fire hydrant after it snows. Another example is the "Adopt a Tsunami Siren" (<http://sirens.honolulu.gov/>) initiative by the government of Honolulu, where ordinary citizens take responsibility for taking care of Tsunami Sirens installed in Honolulu. Finally, social media channels provide a very convenient means of two-way communication with a huge number of citizens in real time at virtually no cost.

However, social media use in the public sector is not risk free and the risks are multiplied when governments use social media without any knowledge of its costs and benefits, their actual audience, and

the proper mechanisms required for handling the two communications (Kavanaugh et al., 2012). A variety of risks are associated with social media use in the public sector, including psychological, social, privacy, and technological risk (Khan et al., 2014). Changes in government culture, organizational practices, and a sound social media strategy are important to realize the benefits and avoid risks of social media (Picazo-Vela et al., 2012).

### 1.1.1. Social Media Strategy in Public Sector

Literature on social media strategy is playing an important role in shaping the use of social media in the public sector. One way to understand social media strategy in the public sector is to compare it with electronic government or e-government strategy. E-government strategy in the public sector can be classified as an inside-out approach: utilizing information and communications technologies (ICTs) to transform and employ internal government processes and resources to provide online public services (Khan, 2013). Meanwhile, social media strategy in the public sector takes an outside-in approach: harnessing external resourcing and expertise (e.g., social media tools and crowd sourcing phenomenon) to service citizens and co-create public services (Khan and Swar, 2013). Another way to classify social media strategy in the public sector is through Mergel (2010)'s push, pull, and networking approaches. Governments employ push strategy to push their contents (e.g., news, updates, and information) to the citizens through social media channels. Embedded within the push strategy is the pull strategies, which is used to funnel the social media users back to the public websites. Finally, networking strategy is used by the public sector to establish collaboration network with the citizens through social media channels.

An important and interesting aspect of social media strategy in the public sector is related to cultural values. Studies have suggested that cultural values play an important role in the way social media strategy in the public sector is formulated (Khan et al., 2014). A study by Khan et al. (2014) investigated Twitter use of the US and Korean Ministries and found that governments in collectivistic culture (e.g., South Korea) are more appropriate for social media to promote their collective public agenda than governments in individualistic culture (e.g., the USA) where social media use is more individualistic in nature (Khan et al., 2014).

## II. Methodology

In this research, we used 'qualitative meta-synthesis' approach (Walsh and Downe, 2005). Since most of the staged models (discussed in the study) are developed qualitatively, using qualitative meta-synthesis in this study is the most suitable approach (Lee, 2010). The goal of qualitative meta-synthesis approach is to develop a descriptive theory or model that can be used to explain the findings of a group of other qualitative studies (Dixon-Woods et al., 2007; WFinlayson and AnnieDixon, 2008). Thus, it can be considered as, "a process of translation and synthesis; identification of consensus, hypothesis development, and investigation of contradictions in patterns of experience across studies make theorizing at higher levels possible" (Zimmer, 2006, p. 1).

### 2.1. Qualitative Meta-Synthesis Procedure

Below we provide details of the qualitative meta-synthesis procedure used in this study (see <Figure 1>)

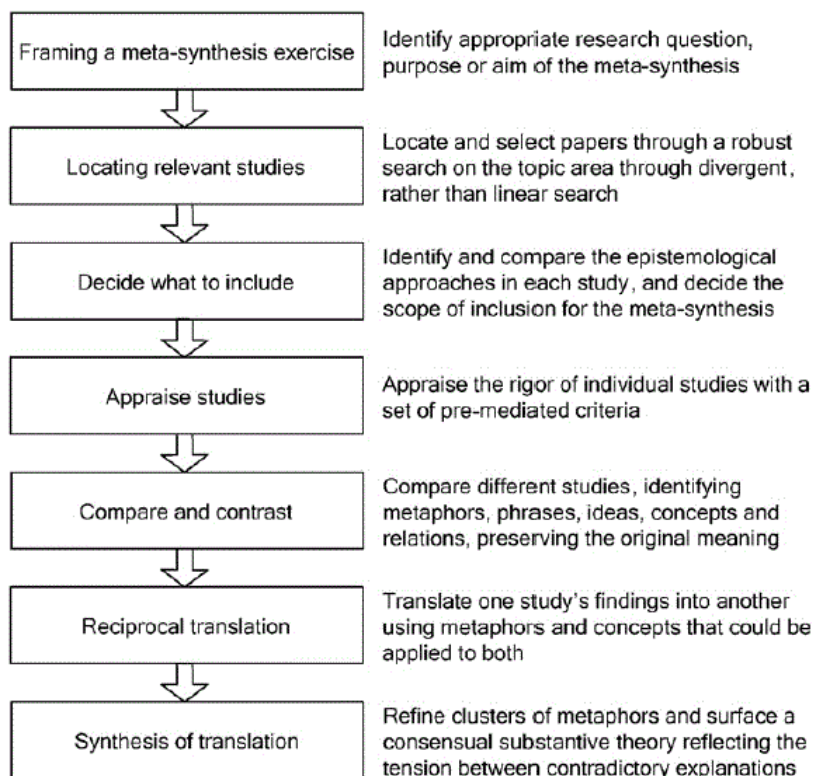
### 2.1.1. Stage 1: Framing a Qualitative Meta-Synthesis Exercise

The first stage of the meta-synthesis is to identify an appropriate research question or purpose of the study. As mentioned in the introduction section, the main purpose of this study is to present a common reference framework to understand social media models available in literature.

### 2.1.2. Stages 2 and 3: Locating Relevant Studies and Deciding What to Include

To conduct both stages of the meta-analysis, we first manually searched the relevant e-government

journals (e.g., Government Information Quarterly, Public Administration Review, Information Polity, Information Development, etc.) and looked for the studies presenting social media-based government models. Second, we automated the search process using keywords (e.g., social media-based government, social media models, open government, government 2.0 models, social media use in the public sector, etc.) to retrieve relevant studies from famous scholarly databases, such as the Web of Science, EBSCO Host, and Google Scholars. After screening and eliminating irrelevant studies, we selected four studies that discussed social media models/usage in the public sector. <Table 1> provides a summary of the studies.



<Figure 1> Qualitative Meta-Synthesis Procedure.  
Adopted from Walsh and Downe (2005) and Jungwoo Lee (2010)

### 2.1.3. Stage 4: Appraisal Studies

This stage suggest that only high quality studies should be included in the analysis; however, since social media use in government is in its infancy and only a limited number of studies presented staged models, we were unable to satisfy this stage and thus decided to include all the four studies shown in <Table 1>.

### 2.1.4. Stage 5: Compare and Contrast

To satisfy this stage, all the four selected models were compared and contrasted. The articles were read thoroughly and phrases, ideas, concepts, and relations were noted. The result of this stage is summarized in <Table 1> and a more detailed description is provided later in the findings section.

### 2.1.5. Stage 6: Reciprocal Translation

This stage begins with the “translation of one study’s findings into another using metaphors and concepts that could be applied to both” (Walsh and Downe, 2005, p. 209). To satisfy this stage, the concepts that were identified in the previous stage are put into a reciprocal translation process revealing metaphors used across and among different stages. The results of this stage are discussed in the findings section.

### 2.1.6. Stage 7: Synthesis of Translation

Finally, the metaphors and concept were synthesized to elucidate a refined meaning and common frame of reference. The detailed results of the qualitative meta-synthesis procedure described above are presented in the discussion section.

## III. Results

As discussed in the method section, a total of four models/frameworks were identified. As shown in <Table 1>, the number of stages/levels in the models ranges from three to five, though majority of the models have three stages. Some models suggest that social media use in the public sector is an incremental staged-based process (e.g., Lee and Kwak, 2012; Mergel and Bretschneider, 2013). However, other models do not make such assertions (e.g., Khan, 2015). Below we provide a detailed synthesis of the concepts and metaphors used in each model.

### 3.1. Open Government Maturity Model:

#### Lee and Kwak (2012)

Lee and Kwak (2012) have developed an open government maturity model for social media-based public engagement that consists of five levels: initial conditions (Level 1); data transparency (Level 2); open participation (Level 3); open collaboration (Level 4); and ubiquitous engagement (Level 5). The model is focused on the open data capabilities of government agencies. The models takes a structural approach and suggests there is a logical sequence for increasing social media based public engagement and public agencies should focus on achieving one maturity level at a time. The model is developed through qualitative approaching using five case studies in Healthcare Administration Agencies in the US. Following are the main concepts of each level.

*Level 1—Initial Conditions:* The main assumption of this stage is that governments cataloguing and broadcasting information though a website have no social media presence or open data capabilities.

*Level 2—Data Transparency:* Level 2 is first step toward establishing an open government. Governments

starts using social media (though limitedly) and start publishing and sharing government data online with the public.

*Level 3—Open Participation:* This level opens government to public idea and knowledge. Governments focus more on increasing citizens' participation in decision and policy making through a variety of technologies including social media tools.

*Level 4—Open Collaboration:* The next step is to foster open collaboration among government agencies, the public, and the private sector to co-create value-added government services.

*Level 5—Ubiquitous Engagement:* Finally, using the power of social media and other related technologies, government agencies establish a truly transparency, participation, and collaboration government. At this level, citizens' participation is easy through social media technologies and effective governance structure and process.

### 3.2. Social Media Utilization Model:

Khan (2015)

While Lee and Kwak (2012)'s study deals with the open data capabilities from the government agency perspective, Khan (2015) suggested a three stage model of social media utilization in the public sector from the citizen's perspective, i.e., engaging citizens using social media. Khan's (2015) social media utilization model starts from information socialization, and then it moves on to mass collaboration and finally to social transaction. Unlike Lee and Kwak (2012)'s model, Khan's model does not follow a structural approach and suggests that depending on the expertise and resources available to government agencies, the proposed stages can be implemented at any order regardless of the other stages. The model was developed through a qualitative analysis of 200 hundred govern-

ment websites and 50 social media initiatives from both developed and developing countries.

*Stage 1—Information Socialization:* At the first stage of social media utilization in the public sector, government agencies keep citizens engaged and informed through social media channels, such as Twitter, Facebook Fan pages, and blogs.

*Stage 2—Mass Collaboration:* Here, social media tools and technologies are used to establish mass collaboration with citizens and across agencies, for example, through crowd sourcing.

*Stage 3: Social Transaction:* At Stage 3, government agencies use social media tools to provide tangible online services to the citizens.

### 3.3. Adoption Process for Social Media:

Mergel and Bretschneider (2013)

Similarly, Mergel and Bretschneider (2013), suggest a three stage adoption process for social media use in the public sector. According to the authors, like all other commoditized technologies, social media use in the public sector also passes through three stages, namely, decentralized informal experimentation (Stage 1), coordinated chaos (Stage 2), and institutionalization and consolidation (Stage 3). In simple words, government use of social media evolves from an informally experimentation by few entrepreneurs to an organized agency wide form of communication medium involving clearly outlined strategy and policies of social media use (Mergel and Bretschneider, 2013).

*Stage 1—Decentralized Informal Experimentation:* This stage is characterized by an unofficial experimental use of social media by a few innovative individuals for their own departments or services. Social media adoption at this stage is unofficial bottom-up experimentation outside the normal control

of information technology departments.

*Stage 2—Coordinated Chaos:* The unofficial bottom-up experimentation at Stage 1 leads to the emergence of informal standards to avoid social media pitfalls and, based on this experimentation, a solid business case for social media use in the public sector is built.

*Stage 3—Institutionalization and Consolidation:* Social media is recognized as one of the official media of communications and formal organizational guidelines, strategies, and policies emerged.

### 3.4. Social Media Based Engagement: Schwalji and Aradi (2013)

Schwalji and Aradi (2013) suggested a contextual models for social media-based government engagement. The authors suggest a three stage model for social media-based engagement from a Arab's perspective.

*Stage 1—Initial Transparency and Citizens' Engagement:* At this stage, governments engage with the citizens in one way communication through social media channels to share news items and important events.

*Stage 2—Enhanced Transparency, Citizen Participation, and Collaboration:* At this stage, a limited two communication happens related to the services offered by governments.

*Stage 3—Full Transparency, Citizen Collaboration, and Participation:* At this stage, governments facilitate service delivery and accessibility through social media channels (Schwalji and Aradi, 2013). <Table 1> provides a summary of the social media-based government models.

### 3.5. Comparing and Contrasting Features of Models

All the four models studied provide a staged wise

understanding of social media use in the public sector; however, each model provides a different approach or viewpoint. For example, Model 1 mostly deals with open government capabilities/developments. Models 2 and 4 deal with social media utilization in the public sector from a citizen's perspective, while Model 3 explains adoption process of social media in the public sector from a government's perspective. It must be noted that unlike other models, Model 2 suggests that social media use in the public sector is not a stage-based phenomenon and governments may reach any suggested stage depending on their capabilities and resources available to them.

#### 3.5.1. Stage 1

At Stage 1 of the Model 1, governments have limited open government capabilities and most communication with citizens is one way. This stage is similar to Layn and Lee (2005)'s the first stage of e-government. Model 4, also suggests that initial social media engagement is one way. However, Model 2 suggests that social media engagement is two-way from its inception, i.e., consistent with the two-ways communication philosophy of social media. While Model 3 does not discuss the nature of social media engagement at Stage 1, it does, however, stress that at initial stage social media adoption in the public sector is an unofficial bottom-up experimentation outside the normal control of information technology departments.

#### 3.5.2. Stage 2

Stage 2 of Model 1 represents the first step towards open government, making some data available online, whereas Stage 2 of Model 2 deals with using social media to establish mass collabo-

ration with citizens. Model 3 suggests that the second stage of social media adoption process in the public sector is related to emergence of informal standards to avoid social media. In the second stage, Model 4 suggest that social media moves from initial to enhanced transparency, citizens participation, and collaboration.

### 3.5.3. Stage 3

Model 1 suggests that in Stage 3 of the open government, governments focus more on increasing citizens' participation in making decision and policy through a variety of technologies including social media tools. This stage is very similar to Model 2's mass collaboration stage (i.e., Stage 2). However, Stage 3 of the Model 2 deals with providing tangible services to the citizens, which is similar to Stage 5 of Model 1 (i.e., ubiquitous engagement). Stage 3 of Model 3 deals with institutionalization and consolidation of social media and suggest that at this stage, social media is recognized as one of the official mediums of communications and formal organizational guidelines, strategies, and policies emerged. And Stage 3 of Model 4 is concerned with full transparency, citizen collaboration, and participation. In this stage, governments facilitate service delivery and accessibility through social media channels.

### 3.5.4. Stages 4 and 5

Only Model 1 suggests Stages 4 and 5. Stage 4 is about open collaboration, which is similar to Stage 2 of Model 2. At Stage 4, governments foster open collaboration among government agencies, the public, and the private sector to co-create value-added government services. And Stage 5 is about establishing

a government that is truly transparent, participatory, and collaborative. At this level citizens' participation is made easy through social media technologies and effective governance structure and process. This stage is similar to Stage 3 in Model 4.

## 3.6. Related Concepts and Metaphors

<Table 2> provides a list of the metaphors and concepts used in the models. Overall, 9 metaphors were identified in the analysis: *presenting mass collaboration, open participation, citizens' sourcing, citizens' coproduction, social transactions, data transparency, adoption process, and institutionalization and consolidation.*

*Presenting* - Making government information available through social media/web 2.0 channels.

*Mass Collaboration* - Establishing mass collaboration through social media/web 2.0 channels.

*Open Participation* - Using social media/web 2.0 channels to provide opportunities for open participation in making public policy.

*Citizen Sourcing* - Tapping into citizens' collective intelligence through social media/web 2.0 channels.

*Citizens' Coproduction* - Enlisting citizens support to co-create value-added government services through social media/web 2.0 channels.

*Social Transactions* - Providing tangible services to citizens through social media/web 2.0 channels.

*Data Transparency* - Making government data available to the public through social media/web 2.0 channels.

*Adoption Process* - Adoption processes for social media use in the public sector.

*Institutionalization and Consolidation* - Reorganization of social media as one of the official media of communication and the emergence of formal organizational guidelines, strategies, policies for its use.



<Table 1> Meta-Analysis of the Models for Social Media-Based Government

Author (s)	Lee and Kwak (Model 1)	Khan (Model 2)	Mergel and Bretschneider (Model 3)	Schwalji and Aradi (Model 4)
Year	2010	2015	2013	2013
Model Name	Open Government Maturity Model	Social Media Utilization Model	Adoption Process for Social Media	Social Media-Based Engagement
# of stages	5	3	3	3
1	Initial Conditions	Information Socialization	Intreprenurship and Experimentation	Initial Transparency & Citizens Participation
2	Data Transparency	Mass collaboration	Constructive Chaos	Enhanced Transparency, Citizens Participation, and Collaboration
3	Open Participation	Social Transaction	Institutionalization	Full Transparency, Citizens Participation, and Collaboration
4	Open Collaboration			
5	Ubiquitous Engagement			
Method used	Case study & Interview	Web content analysis	Retrospective study	Web content analysis

<Table 2> Metaphors Used and Its Description

Metaphors	Description	Lee and Kwak	Khan	Mergel and Bretschneider	Schwalji and Aradi
Presenting	Making information available through social media/web 2.0	Yes	Yes	Yes	Yes
Mass collaboration	Establishing mass collaboration through social media/web 2.0	Yes	Yes	No	No
Open Participation	Using social media/web 2.0 to provide opportunities for open participation in public policy making	Yes	Yes	No	Yes
Citizen sourcing	Tapping into citizens collective intelligence through social media/web 2.0	No	Yes	No	No
Citizen coproduction	Enlisting citizens to co-create value-added government services through social media/web 2.0	No	Yes	No	No
Social transaction	Providing tangible services through social media/web 2.0	Yes	Yes	No	No
Data transparency	Making government data available through social media/web 2.0 channels	Yes	No	No	No
Adoption process	adoption process for social media use in public sector	No	No	Yes	No
Institutionalization and consolidation	Reorganization of social media as a one of the official mediums of communications	No	No	Yes	No

### 3.7. Discussion: A Common Frame of Reference for Social Media-Based Government

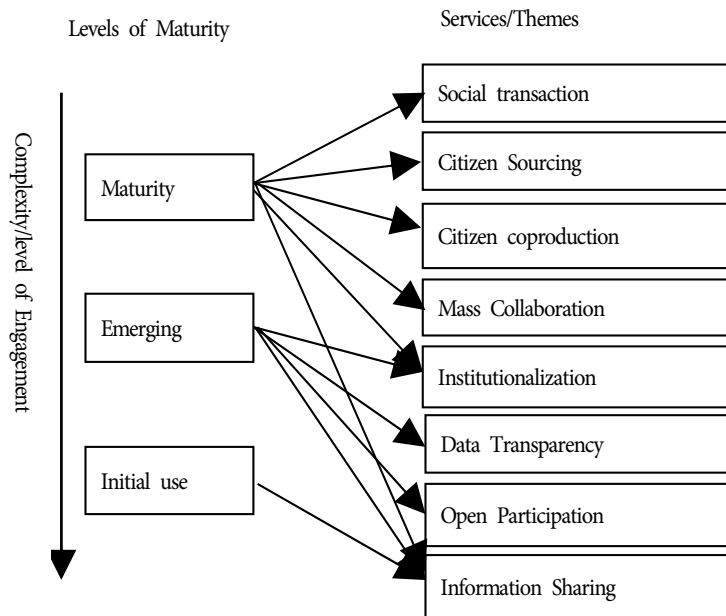
Using a qualitative meta-analysis technique, this study looked at the social media-based government models available in the literature. Concepts were identified and extracted from the proposed models, and as a result, a common frame of reference is developed. In developing the framework, we also took help from some social media-based government typologies available in the literature, such as citizen sourcing (Nam, 2012) and coproduction (Linders, 2012).

Interestingly, when it comes to the public sector, each model suggests a unique way of looking into social media use. For example, some models suggest that social media use in the public sector is an incremental staged-based process (e.g., Lee and Kwak, 2012; Mergel and Bretschneider, 2013); however, other models do not make any distinction (e.g., Khan, 2015). Based on these assumptions, we developed a social media-based government common frame of reference, as shown in <Figure 2>. The framework suggests three levels of social media use maturity: *initial use*; *emerging*; and *maturity*. *Initial use* is what Mergel and Bretschneider (2013) called 'decentralized informal experimentation,' when governments (individuals or departments) start using social media tools (such as twitter and Facebook fan page) for information sharing purposes. *Emerging* level is when social media use starts to takeoff and is used beyond a mere information sharing platform, and develops into a more organized communication and participation channel. *Maturity* is the final level where social media is used for a wide variety of purposes.

As shown in <Figure 2>, the maturity levels can

be differentiated based on the level of engagement or types of services provided through social media channels. For example, the initial stage is characterized by information sharing with citizens and limited opportunities of open participations. However, it is noted that the information sharing role of social media is presented in all levels of maturity. This is because information sharing is the essence of social media. At the emerging stage, governments start to institutionalize social media by establishing formal policies and procedures; however, in some cases, the institutionalization may occur at a later stage. At this stage, governments open their doors for open participations, data transparency, and mass collaboration. And as social media use becomes more mature, the channels are used for more complex engagement, such as social transaction, citizen sourcing, and citizen coproduction. Note that the complexity of the tools used and depth of engagement increases as we move from initial use to more mature levels.

The models studied are interesting and shed light on the mechanics of social media use in the public sector. However, there are certain areas that need further research. For example, studies on social media strategy in the public sector are limited, but emerging. For instance, Khan (2015) suggest that social media-based government has an outside-in approach, i.e., government agencies harness external resources and expertise (e.g., social media tools and citizen sourcing) to provide innovative services. Mergel (2010)'s push, pull, and networking strategies are also crucial for understanding social media-based government. Push strategy is used to push contents (e.g., news and information) to the public through social media channels. Social media users are funneled back to the public websites through pull strategy, and networking strategy



<Figure 2> A Common Frame of Reference for Social Media-Based Government

is employed to establish a two way communication and collaboration with citizens. Also, more studies are needed on cultural values, differences, and strategies. For example, Khan et al. (2014) argued that social media strategy differs according to cultural values. The authors in a cross cultural study showed that governments in collectivistic culture (e.g., South Korea) use social media to promote their collective public agenda (e.g, re-tweeting common content to reinforce their collective agendas regardless of their main administrative functions).

#### IV. Conclusion

In this study, using a qualitative meta-analysis technique, we look into the social media-based government models. By extracting the themes and concept embedded therein, we suggested a common frame of reference. All the model studies provided a unique and divergent perspective on the social media use in the public sector. Thus, the common frame of reference is able to provide deeper clarity and understanding.

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◆ About the Authors ◆

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**Gohar Feroz Khan**

Dr. Gohar Feroz Khan is an Assistant Professor at the Korea University of Technology and Education. Khan has a PhD ICT management from Korea Advanced Institute of Science & Technology (KAIST) and his research interests include social media, government 2.0, and network science. His research has been published in the Journal of the American Society for Information Science, and Technology, the Online Information Review, Government Information Quarterly, Scientometrics, Internet Research, Information Development, and the Asia Pacific Journal of Information Systems, among others.

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