

## Factors Influencing Social Media Use in Local Government

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### Abstract

The use of social media in government has expanded steadily around the world on the basis of Web 2.0 technology. The government uses social media as a tool for enhancing transparency, participation, collaboration, and saving costs. However, the use of social media in the public sector has not only been positive. It has also been described as a double-edged sword. Most local governments in South Korea use social media for a variety of reasons but there has not been enough practical study of the effectiveness of social media use in the public sector. Local governments generally have positive views of their social media use but the real application of social media is not consistent in each local government. This study tried to determine the reality of social media use in local government and what factors influenced its use. The research analyzed the data from a survey conducted by the Korea Local Information Research & Development Institute (KLID) in 2015 and data from Facebook in each local government. The results show that most local governments were using Facebook for promotional purposes and local government officials similarly recognized that they were using Facebook well. However, local governments showed great differences in their use and practical effect. Meanwhile, the study found that population, financial independence, level of government, the entity operating social media, the median age, and whether social media are used for interaction or to gather opinions were the most influential factors that make a difference in utilization in local government.

Keywords : social media, local government, facebook, purpose of social media use, influencing factors

## 지방자치단체의 소셜미디어 활용과 영향요인에 관한 연구

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### 요약

최근 공공기관에서 다양한 목적으로 소셜미디어를 활용하는 사례들이 나타나고 있다. 우리나라의 경우 대부분의 지방정부에서 소셜미디어를 사용하고 있지만 소셜미디어 사용에 대한 실증적 연구는 충분하지 않다. 현재 우리나라의 지방정부들은 소셜미디어에 사용에 대해 대체로 긍정적인 평가를 하고 있지만 실제 활용에서는 일관된 모습을 확인하기 어렵다. 이러한 상황에서 본 연구는 지방정부의 활용 현황을 확인하고 활용에 영향을 주는 요인은 무엇인지를 판단 하고자 하였다. 이를 위하여 한국지역정보개발원에서 2015년 조사한 설문조사 결과와 각 지방자치단체들의 페이스북 활용 현황 자료를 토대로 분석을 진행하였다. 조사결과 지방자치단체는 대부분 홍보 목적으로 페이스북을 활용하고 있었으며, 자신들이 페이스북을 잘 활용하고 있다고 평가했다. 그러나 실제 활용에는 지방자치단체마다 큰 차이를 보였다. 한편 이렇게 지방자치단체의 활용에 차이를 가져오는 영향요인은 인구, 재정자립도, 단위, 전담 조직, 연령, 그리고 소셜미디어 활용 목적이 소통 및 의견수렴일 경우로 확인되었다.

주제어 : 소셜미디어, 지방정부, 페이스북, 소셜미디어 활용의 목적, 영향요인

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## I. Introduction

We are living in a social network age where information spreads very quickly with just a click. This is the age of gathering and using information. Social media has appeared as an important Web 2.0 tool for sharing opinions and information, and for strengthening social connections. Social media has the important features of relationships and interactivity. In particular, interactivity is a core factor in social media and not just a by-product of the service. Another feature of social media is that users constantly extend their relationships while engaging with social media(Seo & Nam, 2012).

Users often tend to trust social media more than traditional media because social media includes mechanisms for contents to be generated and spread through interaction with other users with whom they already have an established relationship or who share similar interests(Ryu, 2009). This means that social media's influence is growing to be as powerful as traditional media. Moreover, social media exerts such a strong influence that organizations sensitive to public opinion take an interest in and use social media as an important means of public relations as well as of gathering opinions.

Many public institutions have recently begun to use social media for various purposes and it seems to be a global trend. Social media has become an accepted tool of government innovation because of its characteristics and influence(Criado, et al, 2013). The US government report "Transparency and Open Government," released by President Obama, proposed the

three goals of transparency, participation, and collaboration. Social media is recognized in this report as a very effective tool for achieving these three goals(Mergel, 2013; Criado, et al., 2013; Bertot, et al., 2013). In line with this, President Obama actively used social media to provide information about government policies and for general communication. Scholars are anticipating more use of social media in the public sector and are currently discussing the necessity, purpose, function, and effectiveness of social media in the public sector.

Some heads of local government in Korea expressed an early interest in social media and started to use it as a medium for communicating with citizens. These efforts have since been widely recognized in the public sector so that almost all local governments now use social media such as Twitter or Facebook(Heo & Seo, 2014). The Korea Local Information Research & Development Institute(KLID) reported in 2015 on the current status of social media use by local governments in Korea. This research found that the proportion of local governments using social media had surged from an already-high 83% in 2011 to an almost-universal 97.4% in 2015. In particular, 85.1% of local governments responded that they are using Facebook as their main social media platform(KLID, 2015).

Competition over government agency use of social media has recently been intensifying through such means as granting the "Korea Social Media Grand Prize" or by analyzing a social score(rating social media use or communication with citizens) (Kim & Cho, 2015). In spite of the general government interest in social media,

government social media use has been criticized because local government, especially at the lowest level, has great disparities depending on region. Another criticism is that the real purpose of social media use is more focused on 'publicity' or 'delivery of information' than on interactive 'communication,' which is an original characteristic of social media(Choi, 2013). Furthermore, some researchers have criticized local governments for using social media as a pretense for other reasons or for simply using the medium without substance(Kim & Cho, 2015). In spite of these criticisms, local government offers a mostly(84.2%) positive self-assessment of their social media use as accomplishing their intended goals well(KLID, 2015). This study questions the results of this research to look for the actual condition of social media use in local government in Korea.

The purpose of this study is to identify the reality of social media use by local government in Korea. In particular, this study seeks to determine what local government is doing with social media, setting out the range of how local government is employing social media, and discovering the factors that determine the differences in how local governments in Korea use social media.

## II. Literature Review

### 1. Social Media in the Public Sector

Social media is based on Web 2.0 technology. This means that people form social networks through relationships and links with each other.

Technology enables people to create, organize, edit, combine, share comment on, and rate the contents of the internet. Taken in this context, the use of social media in government can be understood as an engagement with citizens or other organizations(Chun, et al., 2010). Web 2.0 technology enables government to 'crowdsource' fresh and useful ideas from large numbers of citizens that may lead to discovering solutions to social problems or at least new ways of addressing social need(Ferro, et al., 2013), with social media being one of the best ways to realize these goals.

The core characteristics of social media use in government are collaboration, searchability, linkability, and openness(Criado, et al., 2013). These features enable government to offer better information, extend government services, and engage citizens in government efforts(Bertot, et al., 2013), develop social capital while improving trust in government, as well as make more efficient use of resources(Landsbergen, 2010). Social media is also considered a means of government innovation(Chun, et al., 2010; Ferro, et al., 2013; Linders, 2012; Hilgers & Ihl, 2010).

However, there is a split in the literature regarding the use of social media in government. As can be seen above, one view is that social media is regarded in principle as the main element in achieving the goals of e-government(Bertot, et al., 2013). On the other hand, another view is that people have to distinguish between e-government and the use of social media in government because e-government focuses on the delivery of

government services to citizens(Mergel, 2013). Yet another perspective is that the reality of government social media use is still in its early stages in terms of accessing Web 2.0(Reddick & Norris, 2013).

Moreover, it has been found that officials who work with social media do not consider the results, such as how social media is actually used by citizens or the influence social media has on citizens(Mergel, 2013). This means that how a government uses social media determines whether or not it achieves its existing social media goals.

It has been pointed out that social media is in general use by governments in Korea but that it was only introduced for policy promotion and used mainly for publicity rather than communication(National Information Society Agency, 2011; Choi, 2013). It has also been criticized that each public agency has been able to introduce social independently without any standards or conditions because social media have become popular(Kim & Cho, 2015).

The use of social media in government cannot be evaluated as unconditionally effective. The use of social media in government has two sides. On the one, it is a good way to communicate with citizens in a new environment based on information technology. On the other, social media can be used to enforce government authority, especially for users who have malicious purposes(Seo, et al., 2012). Furthermore, the use of social media in government should be careful and strategic, because it has a powerful ripple effect, particularly when problems occur(Nam, 2011).

In spite of this discussion and ranging theoretical analysis, there has been no empirical analysis of local government use of social media in Korea. At this time there have been discussions on using social media and discussions on the direction of social media use so it is necessary to confirm the status of social media use in local government through empirical study. In addition, it seems that local governments need to consider what to do to use social media more effectively.

## 2. Factors Influencing Social Media Use in the Public Sector

Age is generally the closest factor influencing information technology so social media use also varies significantly with age(Lim & Ahn, 2014). A Korean media panel study in 2012 found that only 23.5% of all respondents(10,319 people) used social media at that time, though the numbers have gone up since. There was no difference in response by gender, but age was a meaningful factor. Young respondents(10-39) were the ones who most used social media, peaking with 61% of those in their twenties using social media(Shin, 2013). This has been confirmed statistically where most social media users(93.7%) in Korea use a smartphone for access(Korea Internet & Security Agency: KISA, 2017). Moreover, 91.5% of those in their twenties used social media, followed by 83.9% of people in their 30s, 69.5% of those in their 40s, 52.6% of people in their 50s, and 29.8% of those in their 60s. The usage figures for the two oldest groups were increasing, but were

still significantly different from those in their 20s(KISA, 2017: 77-78).

However, these results only focus on social media users. There has been an active debate about the use of social media in the public sector, but there have been no studies as to what influences social media use in local government. Studies of the factors influencing social media use in the public sector are rare so this study summarizes these factors through a review of research on local government informatization.

The biggest reason Korea has been able to transform itself quickly into an information society has been powerful government policy(Han, 2010). Government informatization has been promoted in a way that can confirm performance rather than seeking fundamental changes that aggravate long-standing anxieties. Local governments also develop with the aid of the central government and on the basis of its policy so most local governments follow the central government's policy.

However, informatization always requires a lot of money. Leading the successful development of information technology are the economic resources that allowed governments to invest their budgets boldly in developing information technology(Kim, 2003; Jin & Hyun, 2011). It means that local governments must invest a lot in order to successfully follow central government policies. In this context, Seo, et. al.(2012) wanted to evaluate social media utilization but also suggested reflecting the budget for social media as a possible factor. It is necessary to create new departments and employ workers when government carries

out a plan, which requires money from the budget. As a result, larger budget capacity as well as greater dedicated budget resources give local government more ability to invest in and employ(often-expensive) information communication technologies.

In addition, the size of the city is also an important factor in informatization in the case of local governments, though not in the case of the central government. Size here refers to the level of government(first tier autonomous metropolitan and provincial governments or lower tier districts and municipalities), the economic size of the city(financial independence), and the total population. Previous studies of Korea's informatization include such factors as population, level of government, and budget as affecting the informatization of local government(Kim, 2012). In other words, there is a scale gap among local governments. This gap caused differences in the informatization of local governments(Kwon, 2003; Jin & Hyun, 2011).

A recent study in Italy and Spain of actual factors influencing social media use used the variables e-participation, population, cultural diversity, citizen income level, internet participation, education level, financial independence, financial debt, political ideology, and gender of mayor as potential influencing factors. The research determined that the level of e-participation, population size, citizen income level, and government debt were the factors that had an impact on Facebook use(Guillamón, et al., 2016). This present study reconstructed the previous research and judged that it was meaningful in this context

to use population, age, level of city, financial independence, and budget as variables.

On the one hand, previous research has suggested various factors as affecting the utilization of information technology in local governments, but most of these are external factors. On the other hand, it is not only external factors but also internal factors of organizations that should have an influence on the use of social media. Therefore, this research also included intra-organizational factors related to using of social media(the purpose of using social media, the organization operating social media, and the legal framework for social media use).

### III. Framework

This research represents an empirical study to identify the reality of social media use in Korean local government. This study seeks to examine what local government is doing with social media, setting out the range of how local government is employing social media, and discovering the factors that determine the differences in how local governments use social media.

Facebook was chosen as the social media subject of the study as it has the highest number of subscribers in Korea of any social media and is also the social media most used by public institutions. In addition, Facebook has already been shown in many previous studies(Criado, et al., 2013; Bertot, et al., 2013; Landsbergen, 2010; Chun, et al., 2010; Ferro, et al., 2013; Linders, 2012; Gilgers & Ihl, 2010; Utz, 2000;

Seo et al., 2012; Kim & Choi, 2012; Yoon & Lim, 2012) to be the most suitable for explaining features such as communication, engagement, and developing trust, which are mentioned as positive aspects of using social media in public institutions.

#### 1. Data

This study took advantage of the 2015 KLID survey of autonomous Korean local governments. As noted above, 97.4% of all local governments responded in the KLID survey that they use Facebook. This study was interested in how social media was used in local government and therefore excluded data from the small minority that responded that they did not use Facebook.

Following the selection of the governments, subjective data from local governments about their purpose for using social media and their perceived degree of goal attainment were taken from the 2015 KLID survey. The objective data related to actual use of Facebook was collected by visiting the Facebook pages of the local governments that responded to the 2015 KLID survey. In particular, the number of posts on Facebook were counted in the subsequent June, July, and August and the number of pages were then counted in September from the 15th - 25th. Further variables were gathered from official data from other public sources.

The variables used were selected based on variables used in previous research. The variables included median age, population, whether the government is a metropolitan/

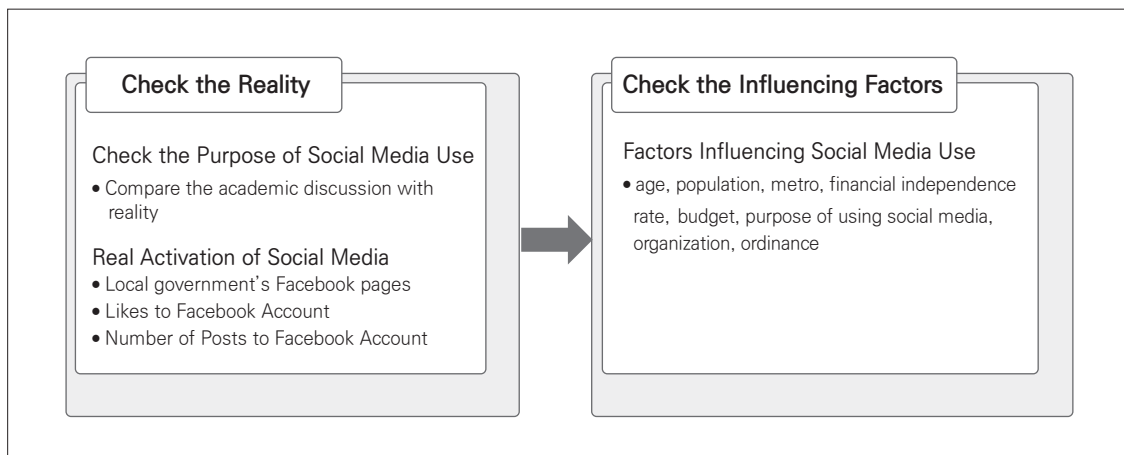
provincial-level government or a lower-level district or municipality, the degree of financial independence, the local government budget dedicated to social media, the self-reported purposes for using social media, the entity in charge of operating social media (whether a new entity was created, an old one employed, or the task was contracted out), whether social media use is governed by an ordinance, and the number of Facebook posts and the frequency of Facebook 'Likes.'

## 2. Method

The strategy of the analysis is divided into two broad steps. The first is checking the reality of current social media use and checking the purposes for using social media and then determining the level of social media activity. The second step is checking the factors influencing social media use. The figure below shows the two steps.

The first step begins by confirming the purposes for using Facebook and the degree of achievement based on the local government responses and comparing the results with the discussion in the scholarly literature. It is completed by examining the local governments that responded positively to their degree of assurance of goal achievement in the first step and objectively confirming their responses by looking at the number of page fans(through Facebook 'Likes') and the number of posts, and then the distribution of each criterion is examined.

The second step uses two multiple regression models to determine the factors that influence social media activity in local government. The dependent variables for the two models are the frequency of Facebook 'Likes' and the number of Facebook posts. The independent variables are the median\_age, population\_total, level(as a dummy variable for metropolitan/provincial government), f\_independence(for rate of financial



〈Fig. 1〉 Research Frame

〈그림 1〉 연구 분석틀

independence), budget(budget dedicated to social media), purpose\_push(social media used for promotion or offering information), purpose\_pull(social media used to gather opinions), purpos\_interaction(social media used to handle civil affairs), new\_operation(dummy variable for a new entity operating social media), contract\_operation(dummy variable for contracting out social media), and system\_legal(dummy variable for social media use governed by a local ordinance).

## IV. Analysis

### 1. Use of Facebook in Local government

#### 1) Purpose for Using Social Media

As stated above, recent studies about the use of social media in local government have argued that social media could increase the engagement of citizens(Criado, et al., 2013; Bertot, et al., 2013; Landsbergen, 2010; Chun, et al., 2010; Ferro, et al., 2013; Linders, 2012; Gilgers & Ihl, 2010; Utz, 2000; Seo, et al., 2012;

Kim & Choi, 2012; Yoon & Lim, 2012). Citizen engagement is also a real trigger for using social media in Korean local government(Seo, et al., 2012; Heo & Seo, 2014). Even so, citizen engagement can be an abstract purpose, so Mergel(2010) distinguished three social media strategies in the public sector: push strategy, pull strategy, and networking strategy. Push strategy regards social media as an additional communication channel so it is only used for delivering information. Pull strategy uses social media as a tool to gather citizen opinions. The last, networking strategy, can be understood as interacting with citizens(Mergel, 2010).

The first goal was to confirm the purpose local government officials had in mind for using social media, especially Facebook, using the 2015 KLID survey data. In response to the question, "What is the purpose of Facebook?" 74.6% of all local governments said that they use Facebook for promotional purposes, and 52.6% said they use Facebook to provide information. Most local governments confirmed that their main purposes for using Facebook follow push

〈Table 1〉 Purpose of Using Facebook

〈표 1〉 페이스북 사용 목적

		push		pull		interaction
		Promotion	Offering information	Cooperation	Gathering opinions	Handling civil affairs
YES	Frequency	85	60	4	40	14
	Percentage	74.6	52.6	3.5	35.1	12.3
No	Frequency	25	50	106	70	96
	Percentage	21.9	43.9	93	61.4	84.2
total	Frequency	110	110	110	110	110
	Percentage	96.5	96.5	96.5	96.5	96.5
	missing	4	4	4	4	4



strategies, although 35.1% responded that they use Facebook to gather opinions.

Korean local governments started to use social media to pursue a networking strategy(Heo & Seo, 2014). However, the most common official response was that the purposes for using social media are promotion and offering information, not engaging with citizens. This shows a difference between the expectations of scholars and early adopters of social media in Korean local government and the reality of the current expressed purposes.

On the other hand, this survey showed further interesting results. In particular, 84.2% of all respondents answered 'sure' or 'very sure' to the question, "Are you convinced that the use of social media will fulfill the purpose of using social media originally planned by the organization?" Only ten respondents were unsure (8.8%), three(2.6%) were very unsure, while five(4.4%) did not provide a response.

Local governments believe that their posts on Facebook are being passed on to many people. It is not generally difficult to imagine that the number of page fans and Facebook posts will

vary greatly so it is interesting that most local governments respond positively to the degree of confidence in achieving their goals. Even though this differs from the expected purpose in previous studies, this helps confirm how local government is really making use of social media.

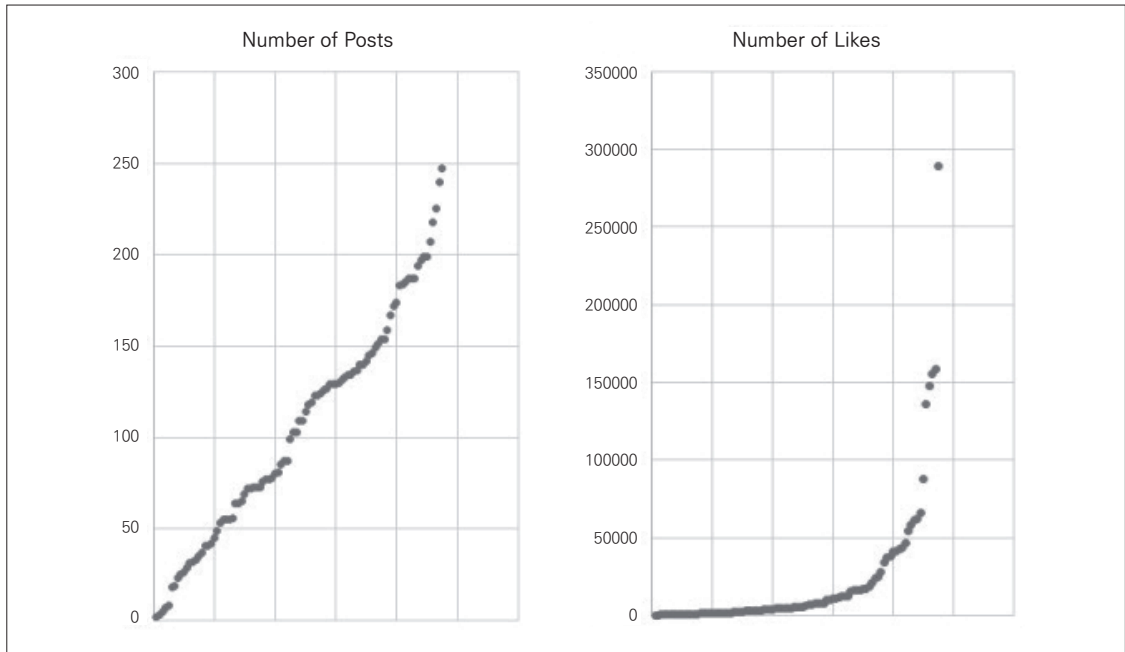
## 2) Range of Activity

This part extracted and analyzed the local governments that positively responded with a degree of confidence in achieving their goals. Previous research has used 'Likes' and posts on Facebook as criteria for measuring activity. The number of 'Likes' on Facebook could be a means for measuring how many people see a post because the activities and posts on a local government's account were delivered at least to users who clicked 'Like' on the post. Previous studies have shown that Facebook users tend to form relationships more actively when they felt homogeneity(Utz, 2010). It means the people who live in a local government's jurisdiction are the most likely to click 'Like' on posts on the government's Facebook page.

(Table 2) Confidence of Local Officials in the Objectives of Using Social Media

〈표 2〉 소셜미디어 사용 목적 달성에 대한 지방정부 공무원들의 확신

Certainty in the Stated Objectives		Frequency	Percentage
Valid	very sure	17	14.9
	sure	79	69.3
	unsure	10	8.8
	very unsure	3	2.6
	total	109	95.6
Invalid		5	4.4
total		114	100.0



〈Fig. 2〉 Range of Local Government Facebook Activity  
 〈그림 2〉 지방정부의 페이스북 활용 정도

The Facebook pages of local governments were checked directly. The number of posts on local government pages ranged from a low of 2 to a high of 247 and the number of 'Likes' ranged from 52 to 289,353. 〈Fig. 2〉 illustrates the range and magnitude of the number of posts and 'Likes' visually by arranging the data in ascending order from the smallest to the largest number.

## 2. Analysis by Activity Criteria

Two linear regressions were conducted to identify the factors influencing the use of social media in local government, focusing on salient factors from the local informatization literature. The first model used 'Likes' as the dependent

variable and the second model used posts as the dependent variable.

〈Table 3〉 shows the descriptive statistics for the regressions. The total number of cases is 90, lower than the 114 in 〈Table 1〉 and 〈Table 2〉 due to missing data. The mean number of 'Likes' was 21,439.58 with a standard deviation of 42,398.05, a minimum of 52 and a maximum of 289,353. The mean number of posts was 104.92 with a standard deviation of 62.19, a minimum of 2 and a maximum of 247. The mean median age was 43.38 with a standard deviation of 4.69, a minimum of 35.3 and a maximum of 53.4. The mean population was 748,703.69 with a standard deviation of 1,762,967.69, a minimum of 18,416 and a maximum of 12,479,061. Level of government was a dummy variable coded

〈Table 3〉 Descriptive Statistics  
 〈표 3〉 기술통계

	Min	Max	Mean	Standard Deviation	N
N_like	52	289353	21439.58	42398.051	90
N_Post	2	247	104.92	62.19	90
median_age	35.3	53.4	43.38	4.69	90
population_total	18416	12479061	748703.69	1762967.69	90
level	0	1	0.19	0.394	90
f_independence	4.60	80.40	22.42	15.04	90
budget	0	357000000	36797266.67	61876635.81	90
purpose_push	0	1	0.91	0.286	90
purpose_pull	0	1	0.40	0.493	90
purpos_interaction	0	1	0.12	0.329	90
new_operation	0	1	0.10	0.302	90
contract_operation	0	1	0.12	0.329	90
system_legal	0	1	0.48	0.502	90

with metropolitan/provincial government as 1 and the mean level was 0.19 with a standard deviation of 0.394 so the mean government was below the metropolitan level. Mean financial independence was 22.42% with a standard deviation of 15.05, a minimum of 4.60% and a maximum of 80.40%. Budget had a mean of 36,797,266.6W with a standard deviation of 61,876,635.81W, a minimum of 0W and a maximum of 357,000,000W. The purpose variables were dummy variables defined as 1 = the local government has the purpose. The mean for the push variable was 0.91 with a standard deviation of 0.286, while the mean for pull was 0.40 with a standard deviation of 0.493, and the interaction purpose variable had a mean of 0.12 and a standard deviation of 0.329. The variable for whether the local government created a new entity to operate social media had a mean of 0.10 and a standard

deviation of 0.302. The variable for whether the local government contracted out social media operations had a mean of 0.12 and a standard deviation of 0.329. Finally, whether the local government had passed an ordinance to govern social media operations had a mean of 0.48 and a standard deviation of 0.502.

〈Table 4〉 shows the results of the regression model using number of 'Likes' as the dependent variable. The r-squared value was 0.676(modified 0.631), with an overall significance of 0.000 for the model. Population, level of government, and financial independence rate were positive and significant at the 0.01 level, while median age and using social media for interaction were positive and significant at the 0.10 level. Using a new entity to operate the local government's social media was negative and significant at the 0.01 level.

This suggests that the greater the population,

〈Table 4〉 Regression Results with ‘Likes’ as the Dependent Variable  
 〈표 4〉 ‘좋아요’ 수를 종속변수로 사용한 회귀분석 결과

		Standardized Coefficient( $\beta$ )	t-value	p-value
Independent Variables	median_age	0.208	1.969	0.053*
	population_total	0.355	3.525	0.001***
	level	0.336	3.529	0.001***
	f_independence	0.445	3.557	0.001***
	budget	0.002	0.023	0.982
	purpose_push	-0.069	-0.958	0.341
	purpose_pull	-0.089	-1.136	0.260
	purpos_interaction	0.124	1.689	0.095*
	new_operation	-0.223	-2.895	0.005***
	contract_operation	0.059	0.822	0.414
	system_legal	0.107	1.519	0.133
	Constant		-1.871	0.065*
Model Statistics	R <sup>2</sup> (Modified R <sup>2</sup> )	0.676 (0.631)		
	F	14.812		
	Significance	0.000***		

\*p<0.10 \*\*p<0.05 \*\*\*p<0.01

the more ‘Likes’ a local government’s Facebook page garners. Likewise, greater financial independence is associated with more ‘Likes’, as does being an upper-level provincial or metropolitan government. Using social media for interactive purposes also related to an increased number of ‘Likes.’ The weakly significant median age interestingly suggests some more ‘Likes’ come from a higher median, which is different from the usual results that show younger people being more active on social media. However, the median ages are within a fairly narrow band(35.3-53.4 years) that excludes the most active youth so this may also represent a slightly more mature and stable population with time and interest in public

affairs and may be a result consistent with Guillamón, et al(2016), which found income level to be a factor influencing social media use. Creating and using a new entity to operate social media was associated with fewer ‘Likes.’

〈Table 5〉 shows the results of the regression model using number of posts as the dependent variable. The r-squared value was 0.230(modified 0.121), with an overall significance of 0.029 for the model, making it much less of a good fit than the previous model. Only one variable, that representing pull purposes of using social media to gather citizen opinions, was significant. It had a positive sign and was significant at the 0.01 level. Basically, using social media to gather citizen opinions is associated with having more

**〈Table 5〉 Regression Results with ‘Posts’ as the Dependent Variable**  
**〈표 5〉 ‘포스트’ 수를 종속변수로 사용한 회귀분석 결과**

		Standardized Coefficient(β)	t-value	p-value
Independent Variables	median_age	-0.156	-0.955	0.342
	population_total	-0.105	-0.677	0.500
	level	0.090	0.616	0.540
	f_independence	0.081	0.419	0.676
	budget	0.158	1.076	0.285
	purpose_push	0.032	0.291	0.772
	purpose_pull	0.217	1.797	0.076*
	purpos_interaction	-0.059	-0.524	0.602
	new_operation	-0.057	-0.481	0.632
	contract_operation	0.061	0.552	0.583
	system_legal	0.155	1.426	0.158
	Constant		1.383	0.171
Model Statistics	R <sup>2</sup> (Modified R <sup>2</sup> )	0.230 (0.121)		
	F	2.114		
	Significance	0.029**		

\*p<0.10 \*\*p<0.05 \*\*\*p<0.01

Facebook posts.

### 3. Results

The analysis was conducted in two stages. First, it was found that most local governments reported they use social media for promotion and offering information when looking at the current state of social media use in local government. Local public officials gave their social media efforts a mostly positive self-evaluation in terms of confidence in fulfillment of the original goals. The range of activity in very different governments that mostly have a positive self-evaluation suggests that this opinion is not based on any objective evaluation

and is likely independent of how people outside of the government may view their success. However, their self-reported success is largely at using social media for promotion and offering information so the self-evaluation may be appropriate.

Next, the local governments that responded positively were separated out and their social media use(on Facebook) was empirically confirmed. Measurements were made of the number of ‘Likes’ and posts. While all respondents rated the success of their social media use as positive, the number of likes and posts showed differences between local governments. In particular, the number of posts and ‘Likes’ varied across a wide range.

Finally, regressions were done using the number of 'Likes' and the number of posts as dependent variables. Variables theoretically related to social media use based on informatization theory were used as independent variables. These included median age, population, level of government, financial independence, the budget dedicated to social media, whether the local government used social media for push or pull or interactive purposes, whether the local government created a new entity to operate social media, contracted out social media operations, or had enacted an ordinance to govern social media operations.

The number of 'Likes' was higher the greater the population, the greater the financial independence, when the government was an upper tier metropolitan or provincial government, when social media is used for interactive purposes, and when the median age increases. Creating a new entity to operate social media decreased Facebook activity as measured by the number of 'Likes'. There were no significant results for the push and pull purpose variables, the budget, contracting out operations, or whether there was a legal framework for social media use. The number of posts was also higher when local governments tried to gather citizen opinions.

## V. Conclusion

The use of social media in the public sector will continue to be a very meaningful research area in the future. Moreover, the use of social media in the public sector is a field that needs further research in academia due to a lack of

empirical research (Zavattaro & Bryer, 2016). This study confirms the present condition of social media use in Korean local government, which helps to expand the research area. However, this study is not a sufficient practical study for investigating the effectiveness of social media use in the public sector because it is focused on confirming the current status of social media use and self-evaluated perceptions of goal achievement, the range of social media activity, and the factors influencing the levels of activity.

This study started from the survey result that local governments in Korea using social media evaluate themselves as performing overwhelmingly positively even though their actual use is different from what has been theoretically predicted by international scholars who suggested that social media in government was for engaging with citizens. In contrast, most local governments use social media to promote policy and provide information. This study found some evidence that using social media for interactive purposes in fact increases social media activity. In addition, self-evaluations of local government social media use in Korea are almost uniformly positive, without regard to what a local government is doing with social media. However, as local officials seem to understand social media as largely just another a tool for delivering information, they view themselves as doing so well. It is difficult to make any independent evaluation in terms of quality of local government social media use at this time.

Population, financial independence, whether a government is at the upper tier of autonomous

local government(provinces and metropolitan cities), use of social media for interactive purposes, the median age, whether new entities are used to operate social media appear to be factors influencing the level of social media activity in local government. It is also likely that using social media to gather citizen opinions is also a factor.

The only factors that are under the control of policy makers and other officials are how social media operates and what it is used for. It would be recommended that new entities not be created to operate social media and that existing operations be assigned the task or, if that is not possible, social media operations should be contracted out. The literature suggests social media should be used for citizen engagement and this study provided results to support gathering citizen opinions and using social media interactively as increasing actual social media activity. Local government could increase social media activity by asking for citizen input as well as by using social media to interact with citizens.

This present research has a number of limitations. The research used data covering only three months in 2015. This is particularly a potential issue as many local governments were in the season where there are many festivals so the number of posts in the activity data may have been biased. In addition, the data is not very current. Future research should update the data and spend ample time collecting new data to base the overall analysis on the results of data collected over an entire year, both to make the data more current and to overcome any

seasonal biases.

This study measured the number of likes and posts for the official page, but future research must present clear and objective criteria to measure the degree of “utilization” of social media. In addition, more practical research should be actively carried out, including research on the effectiveness of utilization and research that suggests guidelines on how to use social media features. Follow-up research should investigate how public officials of local governments understand and accept social media and find appropriate alternatives for promoting the use of social media to its full potential in Korean local government.

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