E-Participation, Transparency, and Trust in Local Government

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Abstract

This study develops a theoretical model of the process of e-participation and analyzes the impact of the e-participation process on e-participants’ trust in government. The study posits that the impact of e-participation on trust in local government is facilitated by the five dimensions of the e-participation process: 1) user-friendliness of e-participation applications; 2) e-participants relationship management (PRM); 3) e-participants’ social learning through the participation; 4) perceived influence on decision-making; and 5) assessment of government transparency. The 2009 E-Participation Survey data in Seoul Metropolitan Government are used in the study. The findings of the study indicate that satisfaction with the user-friendliness of e-participation applications directly and positively affects participants’ social learning and e-participants’ assessment of government transparency. The study results also substantiate that satisfaction with the quality of the PRM facilitates e-participants’ perceptions of influencing government decision-making and their social learning through the participation. Furthermore, e-participants who perceived enhanced social learning and influence on government decision-making reported their positive assessment of government transparency. Finally, the results show that there is a positive association between e-participants’ assessment of government transparency and their trust in the local government that provides the e-participation program. Based on these findings, the paper discusses key implications for applying a strategic management approach to e-participation programs to enhance e-participants’ trust in government.
Introduction

Over the last two decades, researchers have emphasized citizen participation in public administration decision-making as a means of collaborating with citizens to promote democratic values such as responsiveness and accountability (Fung 2006; King, Feltey and Susel 1998; Nelson and Wright 1995; Weeks 2000). The emerging literature on collaborative governance in public administration has suggested that citizens should be considered not only customers, but also collaborative partners in a governance era for building democratic and effective governance (O’Leary and Bingham 2008; O’Leary, Van Slyke and Kim 2010). Concerning the effectiveness of citizen participation, some scholars have paid attention to the process and effectiveness of citizens’ participation in the budgeting process at the local level (Franklin and Ebdon 2004; Irvin and Stansbury 2004). Several scholars also emphasize that government effort to provide more opportunities for citizen participation and input in government performance evaluation and policy decision-making is an important strategy for improving trust in government (Citrin and Muste 1999; Kim 2010; Kweit and Kweit 2007).

Though scholars acknowledge the potential role of citizen participation in public administration decision-making in influencing public trust in government, the specific form of the relationship between the process of citizen participation and its impact on building public trust in government is still to be tested (Mizrahi and Vigoda-Gadot 2009). Several scholars address this concern and call for more studies on understanding citizens’ social learning and citizens’ perceived influence of participation on decision-making in the context of political cultures in different countries (Fung and Wright 2001; Mizrahi and Vigoda-Gadot 2009). While there are various definitions of citizen participation, Verba et al. (1995) defines citizen participation as any voluntary action by citizens more or less directly aimed at influencing the management of collective affairs and public decision-making. Arnstein (1969) introduces a ladder of participation that describes levels of interaction and influence in the decision-
making process from elemental to more in-depth participation (e.g., information, communication, consultation, deliberation and decision-making).

Meanwhile, the evolution of citizen participation in public administration decision-making has been facing a new phase as many government agencies have initiated electronic government (e-government) development and taken advantage of internet-based applications to facilitate community development and communication with constituents and to provide online application services (Heeks and Bailur 2007; Norris and Moon 2005; West 2004). E-government development also focuses on eliciting citizen input by using IT; citizen access to public information; data sharing among public, private, and non-profit sectors; and private-public partnerships (Heeks and Bailur 2007). A growing body of literature focuses on government efforts to utilize new technologies to enable greater citizen participation in policy formation and evaluation and to create greater information exchange between citizens and government (Macintosh and Whyte 2006; Norris 1999; OECD 2001; Komito 2005). Many governments have adopted various forms of e-participation applications, including online forums, virtual discussion rooms, electronic juries or electronic polls (OECD 2003).

The field of e-government has progressed significantly; however, the literature has left significant gaps in our understanding of the relationships among the management of e-participation applications, citizens’ experiences of e-participation, and e-participants’ trust in government. To fill some of these gaps, this study develops a theoretical model of the process of e-participation and analyzes the impact of the e-participation process on the participants’ trust in government. The purpose of this study is to uncover the black box of the e-participation process and its effect on e-participants’ trust in the government that provides the e-participation programs. The study posits that the impact of citizen e-participation on trust in local government is facilitated by five dimensions of the e-participation process: 1) the user-friendliness of e-participation applications; 2) e-participants relationship
management (PRM); 3) citizens’ social learning through the participation; 4) perceived influence on decision-making; and 5) assessment of government transparency.

To examine several hypotheses, the study uses the 2009 E-Participation Survey data collected from 1,076 e-participants of a program called Cheon Man Sang Sang Oasis (CMSSO) run by Seoul Metropolitan Government (SMG) in South Korea. The CMSSO program was designed to receive inputs from the residents of Seoul about SMG’s public policies, programs or management practices. Based on the study findings, the paper discusses the managerial and policy implications of e-participation programs for building public trust in local government.

The Process of E-Participation and Trust in Government

While there is little agreement on the definition of trust at the institutional level, public trust in government can be assessed by the extent to which citizens have confidence in public institutions to operate in the best interests of society and its constituents (Cleary and Stokes 2006). Several scholars have identified that citizens’ perceptions of economic and political performance influences their trust in government (Donovan and Bowler 2004; Mishler and Rose 2001). Furthermore, scholars argue that institutional context, political culture, the changing behaviors and values of citizens, and citizen-state relationships are important factors that determine the level of trust in government (Christensen and Lægreid 2005; Andrain and Smith 2006). Moreover, scholars argue that government efforts to provide more opportunities for citizen participation and input in government performance evaluation and policy decision-making can be an important strategy for improving trust in government (Kim 2010; Kweit and Kweit 2007; Citrin and Muste 1999; Wang 2001).

Meanwhile, several scholars explored the role of e-government in public trust in government (Welch, Hinnant and Moon 2005; Morgeson, VanAmburg and Mithas forthcoming). Welch et al. (2005) find that government Web site use is positively associated with e-government satisfaction and Web site
satisfaction and that e-government satisfaction is positively associated with trust in government. However, few studies have examined the process of e-participation and its impact on building trust in government. In this study e-participation refers to citizens’ voluntary participation and involvement in public administration affairs and public decision-making through the use of web-based applications provided by government. Diverse e-participation applications can be utilized for increasing the transparency of the political and administrative process, for enhancing citizen’s direct involvement, and for improving the quality of opinion formation by opening new spaces of information and deliberation (Trechsel et al, 2003). Following several scholars’ emphasis on the important roles of citizens’ learning during participation and perceived influence on decision-making in enhancing the effectiveness of citizen participation (Mizrahi and Vigoda-Gadot 2009; Fung and Wright 2001; Weeks 2000), this study proposes a theoretical model of the process of e-participation. This section provides a review of the five dimensions of the e-participation process proposed in the study that may facilitate the impact of e-participation on e-participants’ trust in the government that provides e-participation programs.

Management of e-participation applications: In terms of designing e-participation applications, scholars emphasize two important dimensions of the e-participation programs: 1) user-friendly applications; and 2) effective communication and relationship management between citizens and government employees during the e-participation process. For example, several scholars posit that the ease and effectiveness of using e-participation applications motivates citizens’ active engagement and participation in the applications (Parasuraman et al. 2005; Kim et al., 2006). Citizens’ satisfaction with e-participation applications can also be affected by the quality of communication and relationship management between citizens and government employees during the e-participation process. For instance, Halvorsen (2003) found that participants who perceive a high quality of interactions and communications with government employees are more likely to believe that the agency in charge of
managing the participation program is responsive to public concerns. Other scholars (Kweit and Kweit 2004) have emphasized that participants’ satisfaction is determined by government employees’ responsiveness to participants’ needs and the quality of feedback to participants’ inputs. Moreover, participants’ satisfaction depends on the extent to which the participation process is managed to deal with participants’ inputs securely and fairly and deliver them to key decision makers accurately (Halvorson 2003; King, Feltey and Susel 1998). Thus, e-participants’ satisfaction with effective and easy-to-use e-participation applications as well as the quality of the PRM may affect the effectiveness of e-participation programs.

*Citizens’ learning and influence in decision-making:* The value of citizen participation has long been discussed among scholars in social science (Kweit and Kweit 2004; Roberts 2004). From the citizens’ perspective, this study focuses on two types of citizen participation values: the intrinsic value of social learning and the instrumental value of influencing decision-making through participation (Kweit and Kweit 2004; Roberts 2004). Citizens expect that they can be better informed on their community issues through participation (Sabatier 1988; Blackburn and Bruce 1995). Citizens also expect that participation will provide them with an opportunity to promote self-esteem and self-fulfillment (King and Stivers 1998). Furthermore, citizen participation is encouraged as a means of fostering the attitudes and skills of citizenship (Yankelovich 1991), which may have positive impact on citizens’ personal interests such as career development and their motivation to contribute to community building.

In addition, citizen participation has been supported because of its instrumental value that emphasizes citizen participation as a mechanism where citizens influence government agencies’ policy and program decisions (Kweit and Kweit 2004; Roberts 2004). Participation provides citizens with an opportunity to be more knowledgeable by minimizing information asymmetry, which allows participants
to reduce uncertainty and ambiguity about government policy and programs. The decreased information asymmetry between citizens and civil servants can enhance citizens’ ability to understand government agencies, to offer useful and helpful suggestions for them to make better informed policy decisions, and ultimately, to make meaningful contributions. Also, participation introduces citizen monitoring, which increases the likelihood of catching deception and ensures government’s commitment to openness and honesty (Yang and Holzer 2006). As a result, citizen participation can enhance the opportunity that citizens have a greater monitoring role over public administration.

Assessment of government transparency: Several studies suggest that citizens’ evaluation of government performance is positively associated with trust in government (Chang and Chu 2006; Kim 2010; Mishler and Rose 2001; Orren 1997). For example, Chang and Chu (2006) and Kim (2010) revealed that citizens’ perceptions of government performance on economy and control of political corruption are positively associated with their trust in government institutions in several East Asian countries. Orren (1997) further argues that distrust is a result of a gap between expected performance and actual performance. Citizens’ positive assessment of government performance toward more transparency can also serve as a key variable that affects public trust in government (Wang and Wart 2007; Kweit and Kweit 2007; Vigoda-Gadot 2007). Despite the growing body of empirical research on citizens’ perceived government performance and public trust in government, the field has paid limited attention to the impact of the process of citizen participation on the participants’ assessment of government transparency. This study explores how e-participants’ social learning through e-participation and perceived influence on decision-making are related to the e-participants’ assessment of government transparency. It further analyzes how the e-participants’ assessment of government transparency is associated with the e-participants’ trust in the government that provides e-participation programs.
Theoretical Model and Research Hypotheses

This study develops a theoretical model of trust in government by focusing on e-participation applications, PRM, citizens social learning, perceived influence on decision-making, and assessment of government transparency. As depicted in Figure 1, the model emphasizes that the effect of the e-participation process on e-participants’ trust in government is moderated by the extent to which e-participants’ are satisfied with e-participation applications and the quality of the PRM, their perceived influence on decision-making, and their assessment of government transparency. Specifically, the theoretical model posits that e-participants’ satisfaction with e-participation applications is associated with the degree of e-participants’ social learning. Also, we argue that e-participants’ satisfaction with the PRM is positively associated with both the level of e-participants’ social learning and the degree of perceived influence on decision-making through the participation. In addition, this model asserts that both the e-participants’ social learning and the perceived influence on decision making are associated with the e-participants’ assessment of transparency in the government that provides the e-participation programs. Lastly, this research argues that e-participants’ assessment of government transparency is associated with their trust in the local government that provides e-participation programs.

[Insert Figure 1 around here]

E-participation applications and citizens’ learning

The purpose of citizens’ utilization of e-participation applications varies depending on what they need or what they expect. For example, some e-participants may visit the e-participation programs to locate public policy and program information (e.g. policy proposals, progressive reports) associated with community issues. Some e-participants may participate in the programs to propose their inputs or to ask about policy and community issues if they are experienced users. Other e-participants may want to view other e-participants’ ideas or share their thoughts with others. Depending on the level of e-participation
experiences, e-participants may need or expect various technological supports. Accordingly, e-participation applications should be designed to meet their needs by offering quality technology services. Quality services in e-participation programs allows e-participants to locate policy and community issues and to view other participants’ inputs, feedback and government responses easily and effectively (West 2004; Coleman, Lieber, Mendelson and Kurpius 2008).

This study argues that e-participation applications with easy-to-use and effective functions (e.g. online help desk, search engine services or well-designed content structure) are more likely to help e-participants access and gain information about what government agencies do for their communities. Furthermore, the user-friendliness of e-participation applications may positively influence e-participants’ motivation to learn more about community issues. Moreover, e-participants may be able to enjoy a better opportunity to gain support and shared understanding with other participants when e-participation applications are equipped with useful technological functions that make it easy to submit policy comments and ideas, get feedback from government employees and share their thoughts with other e-participants. Lastly, initiating and suggesting policy inputs for the community, engaging others’ thoughts and suggestions, and sharing inputs with others can serve as a means of “learning by doing” and “learning by observing.” Accordingly, e-participants are better able to learn how to deal with diverse community issues, how to develop and elaborate their ideas, which in turn, help them understand civic engagement. Therefore, this study proposes the following hypothesis related to satisfaction with e-participation applications and e-participants’ social learning through the participation.

H1: E-participants’ satisfaction with the user-friendliness of e-participation applications is positively associated with the level of e-participants’ social learning through the e-participation.
**PRM, citizens’ learning, and influence on decision-making**

Prior studies have emphasized that participants’ satisfaction with citizen participation programs is determined by government employees’ responsiveness to participants’ needs and quality feedback to participants’ inputs (Kweit and Kweit 2004; Parasurnman 2005; Webler and Tuler 2000). Because citizens’ inputs are processed through electronic transaction in the e-participation applications, e-participants’ satisfaction depends on the extent to which the e-participation process is managed to deal with participant’s inputs securely and to deliver them to key decision makers accurately (Parasurnman 2005). Moreover, it should be designed and managed to select and review participants’ inputs fairly (Webler and Tuler 2000).

This research addresses that e-participants’ satisfaction with the quality of the PRM promotes e-participants’ social learning through the participation. Furthermore, the quality of the PRM facilitates e-participants’ self-esteem by reinforcing their sense of being an important part of the community, which increases identification with the community (Tajfel and Turner 1986). Increased identification often creates a sense of civic duties by motivating the participant to be more interested in community issues. Also, e-participants who receive quality feedback and responsiveness through the interaction with government employees are likely to perceive that they gain useful policy information that helps them better understand community issues. Moreover, the quality of feedback and responsiveness often motivates e-participants to participate frequently (Moon and Sproull 2008), which increases interaction with other participants and in turn, enhances the opportunity to gain support and shared understanding from others.

This study further analyzes the potential impact of the quality of the PRM on e-participants’ perceived influence on decision-making through e-participation. As indicated earlier, scholars have highlighted that citizen participation serves as a means of affecting and controlling government
bureaucracy and in turn, enhancing a sense of ownership and empowerment (Roberts 2004; Box 2007). The essence of the instrumental value of the participation is citizens’ perceived influence on government bureaucracy with regard to administrative decision making. E-participants who observe high-quality relationship management of e-participants during the e-participation process (i.e., quality feedback and reliable management of policy suggestions) are able to propose better quality inputs, which promote their perception that their inputs would be helpful for government agencies to make better decisions on government policy and programs. Based on the argument that there is a relationship between the PRM and the values of citizen participation, this research proposes the following hypotheses.

H2: E-participants’ greater satisfaction with the quality of the PRM is positively associated with the degree of e-participants’ social learning through the e-participation.

H3: E-participants’ greater satisfaction with the quality of the PRM is positively associated with their perceived influence on decision-making through the e-participation.

**Citizens’ learning, influence on decision-making, and government transparency**

Another important question that has not been much explored in the field of citizen participation and e-participation is how e-participants’ learning and perceived influence on decision-making through the e-participation experiences affect the e-participants’ assessment of government transparency. This study argues that e-participants’ positive perceptions of government capability and reliability that emerge from the e-participation experiences are likely to create the e-participants’ positive assessment of government transparency. For example, the e-participants who learn more about community issues because of the easy-to-use e-participation applications and the quality of PRM are likely to believe that the government agencies offering the e-participation program have improved transparency, two-way communication with the public, and participatory governance.
Roberts (2004) addresses that citizens’ ownership and empowerment are the essence of instrumental values of citizen participation. One can argue that e-participants’ perceived influence in decision-making through their e-participation experiences may lead to reduced potential conflicts regarding public policy and programs between the e-participants and government agencies. Also, the e-participants who perceive greater influence on public administration decisions and governance issues might show positive assessment of government transparency. In order to measure e-participants’ assessment of government transparency, the study focuses on transparency, corruption, two-way communication with citizens, and fair and increased opportunities to participate in the rule making process in the government that provides e-participation programs. This study suggests the following hypotheses.

H4: The degree of e-participants’ social learning through e-participation is positively associated with their assessment of transparency in the government.

H5: E-participants’ perceived influence on decision-making through e-participation is positively associated with their assessment of transparency in the government.

**Government transparency and e-participants’ trust in government**

Several studies posit that government reform efforts emphasizing more democratic and citizen-centered transformation have promoted public trust in government (Wang and Wan Wart 2007; Kweit and Kweit 2007; Vigoda-Gadot 2007). For example, several scholars reported that those who believe that bureaucracy has made efforts to involve citizens in their administrative process have greater trust in the government (Kim 2010; Kweit and Kweit 2007). Scholars have also paid attention to the association between political corruption and the degree of public trust in government (della Porta 2000; Pharr and Putnam 2000; Seligson 2002). Using the Eurobarometer data, della Porta (2000) found that the degree of perceived corruption is negatively associated with trust in government in Italy, France, and Germany.
Seligson (2002) also demonstrated that citizens’ corruption experiences are negatively associated with their belief in regime legitimacy in four Latin American countries. A recent study on citizens’ satisfaction with e-government and its association with trust in the federal government in the United States found that if citizens find e-government transparent, they are more likely to return to the site, recommend it, use it and express more trust in the government agency (Sternstein 2010). This study proposes the following hypothesis.

H6: E-participants’ assessment of government transparency is positively associated with their trust in the government that provides the e-participation programs.

Research Methods

This research focuses on CMSSO, which is one of the e-participation programs within the SMG portal site that provides well-organized and systematic opportunities to participate in governmental processes. The CMSSO has provided citizens with an opportunity to submit their ideas and suggestions on proposed specific policies via policy forums in the web portal since October 2006. It further provides e-participants an opportunity to propose new ideas that may contribute to enhancing government effectiveness and resolving community issues related to any public policy and programs in the SMG and governance issues in the city of Seoul. Since 2006, 34,792 members join the CMSSO (as of June 2009) and they have made 30,897 proposals and comments on SMG policies, projects and practices (as of April 2009).

Data Collection: The sample frame of this survey includes 10,137 CMSSO members who have proposed more than one policy, program or managerial idea in the last 3 years through CMSSO websites. The web-based survey questionnaire was deployed on CMSSO websites for one week in June 2009. In addition, an email was sent to 10,137 CMSSO members in order to encourage their participation in the survey. As a result, 1,076 CMSSO members participated in the survey, a response rate of 10.6 percent.
Due to a low response rate, we checked whether or not there is non-response bias by examining the potential differences between the respondents and the non-respondents (Moon 1999; Rainey, Pandey and Bozeman 1995). We found that the two groups were not significantly different in terms of age, gender or living location. Non-response bias was therefore not a concern for the validity of the data. However, according to an analysis of the distribution of both respondents and population, female respondents were underrepresented. Among 1,074 survey participants, 73.9 percent were male and 26.1 percent were female. In terms of age, the participants ranged from the twenties to over sixty. More than thirty percent of respondents were over forty years old (36.4 %). Age distribution was as follows: 20-29: 22.1 %; 30-39: 29.3 %; 40-49: 27.8 %; 50-59: 15.2%; and over 60: 2.5 %. The majority of respondents reported having a bachelor degree (56.4%), with 13.5 percent holding graduate or professional degrees. Annual income levels ranged as follows: less than $30,000: 42.2%; $30,000-$50,000: 38.6%; and more than $50,000: 19.2%.

**Measurement:** Public trust in government is measured by the single item: To what extent do you trust SMG to operate in the best interests of society? The item was rated on a five-point Likert scale ranging from 1 (don’t trust at all) to 5 (trust a lot) with a higher score indicating greater trust. User-friendliness of e-participation applications was measured by the five modified items from Parasuraman et al. (2005) that were rated on a five point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The PRM is measured using the six items modified from Parasuraman et al. (2005) on online service quality. Citizens’ social learning was measured by the index of seven items which were suggested by prior research (Roberts 2004; Kweit and Kwiet 2004; Irvin and Stansbury 2004). These items capture the extent of e-participants’ perceived effect of their CMSSO participation on individual development. Influence on decision-making was measured by using the three items developed based on previous studies (Roberts 2004; Kweit and Kwiet 2004; Irvin and Stansbury 2004). Assessment of
government transparency was measured by the index of five items. Table 1 presents five latent variables with Cronbach’s Alphas and corresponding survey items with standardized factor loadings. All the survey items associated with respective latent variables are found to be statistically significant (p < .001), providing evidence of adequate convergent validity.

[Insert Table 1 around here]

To control potential effects of individual characteristics on trust in government, gender, age and income variables were included in the model (Welch, et al., 2004; Kim 2010). As for gender, male is coded as 1 while female is 0. To measure age, respondents were asked to indicate their year of birth, which is then transformed into their age. Income variable is measured by a survey item – “Which of the following broad categories best describe your total monthly income from all sources (e.g. money from jobs, net income from business, farm or rent and any other money income received by you or any other family member) in 2009?” The item includes six categories – (1) 2,000,000 KRW or less (2) 2,000,000 to 2,999,000 KRW (3) 3,000,000 to 3,999,000 KRW (4) 4,000,000 to 4,999,000 KRW (5) 5,000,000 to 5,999,000 KRW (6) 6,000,000 KRW or more.

Results

Correlation matrix: Table 2 shows the means, standard deviation and correlation statistics of latent and dependent variables. All of the 15 bivariate correlations were statistically significant at p < .001. The magnitude of Cronbach’s coefficient for the multiple-item measures and trust measure ranged from 0.39 (between influence on decision-making and trust in government) to 0.70 (between the quality of PRM and influence on decision-making).

[Insert Table 2 around here]

The Measurement Model: Structural equation modeling was used to empirically test the proposed structural equation model including five latent variables. AMOS 7.0 was used and parameters were
estimated by maximum likelihood method. We followed up a two-step process of latent path modeling (Anderson and Gerbing 1988). The first step was to use confirmatory factor analysis (CFA) by imposing a model where all factors were allowed to covary. As for the data-model fit criteria, a structural equation model can be valid when the value of $\chi^2/df$ is less than 3, the value of Comparative Fit Index (CFI as a incremental index) is equal to or greater than .90 – ideally, equal to or greater than .95, and the value of Root Mean Square Error of Approximation (RMSEA as a parsimonious fix index) is less than .08 (Byrne 2001; Kline 1998). The overall model fit measures such as CFI(.927), IFI (.927), TLI (.911) and RMSEA (.060) are good, indicate that the proposed CFA model can be retained as a valid measurement model (without any modification). However, the $\chi^2$ statistics is significant (1512.8; p=.000; df=310; n=405), which is not indicative of a model fit and $\chi^2/df$ (4.88) did not meet the traditional criteria ($\chi^2/df < 3$). But, this rule has been considered inappropriate because the $\chi^2$ statistics is often very sensitive to a large sample size (Byrne 2001; Kline 1998).

**The Structural Model:** The second step was to modify the measurement model to predict theoretically derived causal paths in the proposed model. Table 3 shows the goodness-of-fit indices of the hypothesized structural model. Although the parsimonious index of $\chi^2/df$ did not support the proposed structural model, the other parsimonious fix index of RMSEA supports the model (.059) given the threshold scores are usually lower than .08(Byrne 2001; Kline 1998). Two fit-indices support the validity of the model (CFI=.912, TLI=.911) while IFT does not (IFI=.895). Those scores are considered an excellent fit if they are greater than 0.9.

[Insert Table 3 around here]

To assess the fitness of hypothesized model and to determine the best model representing the data, we used the change in chi-square test (Bentler and Bonnett 1980) to compare the hypothesized model with four alternative models (Kelloway 1998; Seibert, Kraimer and Liden 2001). The alternative
model 1 specified only the direct paths from all the independent variables to the e-participants’ trust in government variable. The alternative model 2 specified the indirect paths from satisfaction constructs (i.e. satisfaction with e-participation applications and the PRM) to trust in government through e-participants’ assessment of government transparency and the direct paths from e-participation value constructs (i.e. e-participants’ social learning and influence on decision-making) to trust in government. The alternative model 3 included the indirect paths from satisfaction constructs to trust in government through e-participation value constructs as well as direct path from assessment of transparency to trust. As shown in Table 3, the comparison showed that the hypothesized model provided a significantly better fit than did three alternative models. Lastly, we compare the hypothesized model with the alternative model 4, which specified the paths in the hypothesized model as well as the direct paths from satisfaction constructs to assessment of transparency. Table 3 shows that the change in chi-square test showed that this alternative model 4 was significantly better than the hypothesized model ($\Delta \chi^2 = 65.7$; $\Delta df = 1; p < .001$). Moreover, the alternative model 4 provides better RMSEA (.058) and goodness-of-fit indices (CFI=.916; IFI=.900; TLI=.915). Therefore, the alternative model 4 was retained as the best-fitting model. All of these alternative models included the control variable paths.

**Findings and Implications**

Figure 2 presents the parameter estimates for all paths in the hypothesized model and additional paths in the alternative model 4 as standardized parameter estimates (i.e. standardized loadings or “β weights”). The t-statistics for path coefficients for six hypotheses were statistically significant.

[Insert Figure 2 around here]

Figure 2 reveals that H1 was supported ($\beta = .12; p < .01$). Also, the direction of the path was positive, consistently supporting the hypothesis. The findings indicate that the satisfaction with the user-friendliness of e-participation applications directly and positively affects e-participant’s social learning.
The e-participant’s social learning reflects the motivation of e-participants, in that they might need to be informed, educated or developed for better citizenship through engagement in community issues and interaction with others including SMG employees. High costs for accessing policy information and engaging in administrative decision-making processes have been criticized as a barrier for citizen participation (Thomas and Streib 2003; Irvin and Stansbury 2004). As noted earlier, user-friendly web-based e-participation applications have been advocated as a crucial tool for e-government to facilitate citizen participation by offering easier and more effective access to policy information and involvement in administrative decision-making procedure (West 2004; Welch, et al, 2005; Walker 2010). The results suggest that user-friendly e-participation applications create or strengthen the e-participants’ social learning by providing easy-to-use and effective e-participation applications that meet e-participants’ satisfaction.

The alternative model 4 reveals that satisfaction with e-participation applications has a direct positive effect on e-participants’ assessment of government transparency (β = .30; p < .001). But, further analysis shows no direct link to trust in government (β = .009; p < .756). It is worthwhile to note that this result is inconsistent with the observations of prior studies examining the direct linkage between e-government and trust (Welch et al, 2005; Morgeson III, et al, forthcoming). The findings of this study imply that e-participants’ satisfaction with e-participation applications positively affects their trust in government only through enhanced social learning from the participation and positive assessment of government transparency.

As expected, H2 was supported by the data (β = .59; p < .001). The findings imply that e-participants’ satisfaction with the quality of PRM resulted in their positive perceptions of their social learning through the e-participation. The results also supported H3 (β = .84; p < .001). That is, the study sample reported that satisfaction with the quality of the PRM facilitates their perceptions of influencing
government decision-making. This structural path was the strongest and the most significant in the model. The findings suggest that government agencies can enhance e-participation effectiveness in emphasizing participants’ social learning and perceived influence on government decision-making by offering the quality of the PRM (e.g., ongoing feedback to e-participants and credibility for the security of the e-participation management). The findings support prior studies regarding the important role of learning and empowerment in delivering effective participation programs (Moon and Sproull 2008; Kim, Kim and Leennon 2006). The alternative model 4 suggests that there is no direct association between e-participants’ satisfaction with the PRM and their assessment of government transparency ($\beta = -.04; p < .694$), which implies that e-participants’ satisfaction with the PRM positively shapes their assessment of government transparency through promoted e-participation values, including social learning and perceived influence on government decision-making.

The results also supported H4 ($\beta = .32; p < .001$). E-participants who perceived enhanced social learning through their e-participation experiences reported positive assessments of government transparency. This finding indicates that e-participants’ actual experience gained through direct interaction with the government is likely to create a positive perception of government transparency. The findings imply that the perceived transparency of the government providing the e-participation programs can be reinforced by e-participants’ enhanced social learning gained from the actual experience with civil servants through the PRM.

Moreover, the results show that there is a positive association between e-participants’ perceived influence on government decision-making and their assessment of government transparency (H5) ($\beta = .27; p < .001$). E-participants’ enhanced perceptions of influencing decision-making seem to reinforce favorable assessment of the government transparency through their satisfaction with e-participation applications and the quality of the PRM. The data reveal that H6 was also supported
This structural path was the second strongest and significant in the model. It suggests that the study participants show greater trust in the local government that provides e-participant programs when they have more favorable assessment of the government performance toward more transparency. The results are consistent with prior observations (Wang and Wan Wart 2007; Kweit and Kweit 2007; Vigoda-Gadot 2007).

**Implications for strategic management of e-participation programs:** This study explored the structure of e-participation’s effect on e-participants’ trust in government. Using the survey data collected from the residents of Seoul who have hands-on experience with the e-participation program run by SMG in South Korea, this research found that citizens’ satisfaction with e-participation applications and the quality of the PRM has direct and positive association with e-participants’ social learning. E-participants’ greater satisfaction with the quality of the PRM is also positively associated with their perceived influence on decision-making through the e-participation. And, the study observed that e-participants’ assessment of government transparency becomes more favorable when they perceive that social learning and influence on government decision-making are enhanced through e-participation. Finally, we found that the assessment of government transparency is positively associated with the e-participant’s trust in the government that provides e-participation programs.

The proposed e-participation process model and the results of a structural equation analysis found in the study indicate that government leaders need to pay attention to process and develop a results-oriented strategic management approach to implement e-participation programs. In order to strengthen the effectiveness of e-participation programs, local government leaders should adopt a strategic management approach to the development of e-participation programs, including a clear vision and goals for the program, management capacity building, and a results-oriented performance management system of the e-participation programs. For example, the results of this study showed that
government leaders can set the values and goals of the e-participation programs, including increasing citizens’ social learning, citizen empowerment for decision-making, and trust in government.

Effective promotion of the articulated statement of vision and goals can generate political support from the citizenry regarding government reform, and such support enables organizational leaders to institute management systems or capacity for high performance (Ingraham, Joyce and Donahue 2003). Accordingly, successful e-participation programs require effective promotion and communication of the program vision and goals with internal stakeholders (i.e., senior management and employees) as well as external stakeholders (i.e., citizens, community, private corporations, and other governments). Clear vision and goals of e-participation programs may engender a sense of involvement and contribution not only by citizens but also by employees (O'Dell and Grayson 1998). Scholars in public administration and government agencies have also stressed the need to understand the ways in which management capacity and processes can contribute to the potential for improved innovation and performance (Ingraham, et al. 2003; Walker and Boyne 2006). The results of this study indicate that in order to achieve the goals of the e-participation program, government leaders should emphasize a formal evaluation tool for assessing the user-friendliness of specific e-participation applications, the quality of the PRM, and government performance of transparency.

Inviting citizens’ and employees’ input to enhance the quality of e-participation process management and to assess the effectiveness of the e-participation programs should be considered. When government leaders adopt a system of managing for results for e-participation programs, they should consider three key components (Ingraham, et al, 2003): 1) clear objectives of specific e-participation applications; 2) performance measurement of the applications; and 3) continuous monitoring of the effectiveness of the e-participation applications. In order to continuously improve the effectiveness of e-participation programs, government leaders should send a report of e-participation effectiveness to
major stakeholders and solicit feedback. Government leaders also need to pay attention to the investment in human resource capacity for enhancing the quality of the PRM. For effective communication between e-participants and government employees, government leaders need to emphasize management capacity building for government agencies to coordinate and enable integration, sharing, and transfer of information and knowledge within agencies and in governmental networks. Rewarding and recognizing the accomplishments of teams and individuals that help improve e-participation effectiveness through the high quality of the PRM should be considered.

**Conclusion**

This exploratory study contributes to public trust literature by uncovering several dimensions of e-participation’s role in influencing public trust in government. Instead of a simple and direct link between e-participation and public trust, the study proposed and tested the structural model of the e-participation process, participation values (e.g., social learning and empowerment), government transparency, and public trust in government. Furthermore, few empirical studies have been conducted to examine how e-government technologies and management of e-participation shapes participants’ social learning and perceived influence on decision-making that affects citizens’ motivation to participate. Therefore, the study makes another contribution to citizen participation research by highlighting the direct association between satisfaction with citizen participation management and the values of citizen participation. The study model and findings also raise a bigger and important question regarding how to conduct local e-participation research in the context of decentralization in different regions and countries. There are important gaps in knowledge in the discourse of public administration when it comes to the effectiveness of citizen participation and e-participation programs in various countries. More in-depth case studies in various regions and countries may help develop e-participation
models, and scholarly efforts to perform rigorous testing of the models with valid data would facilitate
theory building about e-participation effectiveness in public administration.

Albeit several theoretical and practical implications, this study has limitations to address. First,
the study findings are based on one sample of citizens who experienced one e-participation program run
by one city government. The study sample may limit the external validity of the research. The results
may not apply equally to a different context such as e-participation in urban local governments in other
countries. Further studies need to examine if the findings can be applied in different contexts. Also,
although we checked non-response bias and included gender and age as controls in the model, it should
be noted that sampling bias can be involved in this study because a response rate was low and sample
lacks representativeness. We call for future research to use a more representative sample to verify the
findings. Second, we measure the public trust in government variable by using a single survey item.
Since public trust is multifaceted, this item may not capture different aspects of public trust (e.g. Welch,
et al, 2005). Also, it is more sensitive to measurement error than multiple-item measures. So, the results
associated with public trust should be cautiously interpreted. We suggest that future studies use multiple
items to broadly and comprehensively capture the public trust in government.
References


### Table 1. Constructs, Survey Items and Standardized Factor Loadings

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Survey Items</th>
<th>Factor loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with E-participation Applications</td>
<td>(1) CMSSO is easy to search for content and proposals available on CMSSO websites</td>
<td>.780*</td>
</tr>
<tr>
<td></td>
<td>(2) CMSSO provides effective functions that deal with my questions (Help desk, Q&amp;A, contact information)</td>
<td>.698</td>
</tr>
<tr>
<td></td>
<td>(3) CMSSO provides well-designed content structure</td>
<td>.808</td>
</tr>
<tr>
<td></td>
<td>(4) CMSSO has content-rich services</td>
<td>.665</td>
</tr>
<tr>
<td></td>
<td>(5) CMSSO provides the functions that are easy to submit ideas and to get feedback</td>
<td>.690</td>
</tr>
<tr>
<td>Satisfaction with the PRM</td>
<td>(1) SMG has provided answers and feedback to my proposal in a sincere manner</td>
<td>.793*</td>
</tr>
<tr>
<td></td>
<td>(2) SMG has provided answers and feedback to others’ proposal in a sincere manner</td>
<td>.772</td>
</tr>
<tr>
<td></td>
<td>(3) I found the CMSSO process to be very responsive to my needs</td>
<td>.765</td>
</tr>
<tr>
<td></td>
<td>(4) I have confidence that my proposal is delivered accurately</td>
<td>.787</td>
</tr>
<tr>
<td></td>
<td>(5) I trust that my proposal is delivered securely</td>
<td>.614</td>
</tr>
<tr>
<td></td>
<td>(6) The proposal is selected fairly through CMSSO process</td>
<td>.671</td>
</tr>
<tr>
<td>E-Participants’ Social learning</td>
<td>(1) My participation in CMSSO has increased my self-esteem</td>
<td>.804*</td>
</tr>
<tr>
<td></td>
<td>(2) contributed to community building</td>
<td>.704</td>
</tr>
<tr>
<td></td>
<td>(3) helped me build better civic duties</td>
<td>.769</td>
</tr>
<tr>
<td></td>
<td>(4) provided for an opportunity to learn more about community issues</td>
<td>.753</td>
</tr>
<tr>
<td></td>
<td>(5) helped me gain useful information through the interaction with other participants</td>
<td>.611</td>
</tr>
<tr>
<td></td>
<td>(6) positive impact on my career development</td>
<td>.770</td>
</tr>
<tr>
<td></td>
<td>(7) helped me gain support and shared understanding from other participants.</td>
<td>.694</td>
</tr>
<tr>
<td>Influence on Decision-making</td>
<td>(1) SMG actually uses my proposal(s) for making and implementing policies and programs</td>
<td>.823*</td>
</tr>
<tr>
<td></td>
<td>(2) my proposal is helpful for SMG to make and implement policies and programs even though they don’t use it actually</td>
<td>.719</td>
</tr>
<tr>
<td></td>
<td>(3) SMG actually uses others’ proposal(s) for making and implementing policies and programs</td>
<td>.781</td>
</tr>
<tr>
<td>Assessment of Government Transparency</td>
<td>(1) SMG’s civil application processes have been more transparent</td>
<td>.795*</td>
</tr>
<tr>
<td></td>
<td>(2) SMG employees’ engagement in corruption has been reduced</td>
<td>.699</td>
</tr>
<tr>
<td></td>
<td>(3) SMG has promoted two-way communication with the public</td>
<td>.834</td>
</tr>
<tr>
<td></td>
<td>(4) SMG has provided the residents of Seoul with greater opportunities to participate in the rule making process</td>
<td>.817</td>
</tr>
<tr>
<td></td>
<td>(5) SMG has provided the residents of Seoul with an equal opportunity to participate in the rule making process.</td>
<td>.807</td>
</tr>
</tbody>
</table>

Note: Cronbach’s alpha is parentheses

*For model identification purpose, loading is fixed at 1 for the indicator in unstandardized solution.

### Table 2. Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Satisfaction with e-participation applications</td>
<td>17.52</td>
<td>3.57</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Satisfaction with the PRM</td>
<td>18.72</td>
<td>4.31</td>
<td>.60***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. E-participants’ social learning</td>
<td>23.10</td>
<td>4.78</td>
<td>.47***</td>
<td>.62***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Influence on decision-making</td>
<td>9.79</td>
<td>2.50</td>
<td>.50***</td>
<td>.70***</td>
<td>.58***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Assessment of government transparency</td>
<td>27.19</td>
<td>6.47</td>
<td>.53***</td>
<td>.53***</td>
<td>.54***</td>
<td>.52***</td>
<td></td>
</tr>
<tr>
<td>6. E-participants’ trust in government</td>
<td>3.28</td>
<td>0.94</td>
<td>.40***</td>
<td>.43***</td>
<td>.46***</td>
<td>.39***</td>
<td>.69***</td>
</tr>
</tbody>
</table>

*** p < .001
Table 3. Nested Model Comparisons: Goodness-of-fit Indices

<table>
<thead>
<tr>
<th>Structural Model</th>
<th>$X^2 (df)$</th>
<th>$X^2/df$</th>
<th>$\Delta X^2 (\Delta df)$</th>
<th>CFI</th>
<th>IFI</th>
<th>TLI</th>
<th>RMSEA</th>
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</thead>
<tbody>
<tr>
<td>Hypothesized</td>
<td>1880.3***</td>
<td>4.77</td>
<td></td>
<td>.912</td>
<td>.895</td>
<td>.911</td>
<td>.059</td>
</tr>
<tr>
<td>Alternative 1</td>
<td>3283.5***</td>
<td>8.29</td>
<td>-1,403.2*** (2)</td>
<td>.828</td>
<td>.829</td>
<td>.798</td>
<td>.082</td>
</tr>
<tr>
<td>Alternative 2</td>
<td>2839.2***</td>
<td>7.17</td>
<td>-958.9*** (2)</td>
<td>.854</td>
<td>.855</td>
<td>.829</td>
<td>.076</td>
</tr>
<tr>
<td>Alternative 3</td>
<td>2397.1***</td>
<td>6.08</td>
<td>-516.8*** (1)</td>
<td>.881</td>
<td>.881</td>
<td>.859</td>
<td>.069</td>
</tr>
<tr>
<td>Alternative 4</td>
<td>1814.6***</td>
<td>4.62</td>
<td>65.7*** (1)</td>
<td>.916</td>
<td>.900</td>
<td>.915</td>
<td>.058</td>
</tr>
</tbody>
</table>

*** p < .001; ** p < .01
Figures

Figure 1. A Proposed Model of E-participation, Transparency, and Trust in Government

Figure 2. Results of Alternative Model 4

*** p < .001; ** p < .01; The numbers in parentheses indicate standard errors. Hypothesized relationships are represented by solid lines and non-hypothesized ones are shown by dotted lines.