E-participation Opportunities and the Ambiguous Role of Corruption: A Model of Municipal Responsiveness to Sociopolitical Factors

Abstract: Municipalities ostensibly scale the ladder of e-participation improvement to gain legitimacy. However, research has not yet addressed how e-participation initiatives are affected by serious legitimacy concerns such as corruption. One municipal response to corruption is to use e-participation offerings as a remedial effort to gain citizen trust, but window-dressing strategies might also be used. In this article, the authors attempt to make sense of this ambiguity by hypothesizing that the effects of perceived corruption on e-participation offerings depend on the type of e-participation as well as the level of local social capital and local public accountability demand. Analysis of data from 104 municipal websites in South Africa between 2013 and 2017 reveals support for two moderation mechanisms: (1) a positive remedial response to corruption in the presence of strong social capital and (2) a negative avoidance response to corruption in the presence of high demand for accountability.

Evidence for Practice

- E-participation tools are a viable way for municipal managers to tackle corruption.
- Selection of tools for one-way or two-way interaction should be based on careful consideration of citizen capacity and demand rather than a blanket approach.
- High levels of e-participation offerings depend not only on physical resources such as financial resources and internet access but also on social capital and public demand for accountability.
- Building social capital is a good long-term strategy for preventing corruption and creating sustainable e-participation engagement.

This article explores the role of corruption as a factor in local government e-participation development. Today, government interest in citizen participation is growing across the globe (Bingham, Nabatchi, and O’Leary 2005; Lee, Chang, and Berry 2011; Vigoda 2002). Some of the debates on the merits and challenges of participation have moved into electronic territory as jurisdictions have adopted information and communication technologies (ICTs) both to inform and to interact with citizens (Barber 1998; Bovens and Zouridis 2002; Kakabadse, Kakabadse, and Kouzmin 2003). Scholars have tried to find out what variables explain e-participation adoption, but so far studies do not convincingly show which variables are important (Borge, Colombo, and Welp 2009; Zheng, Schachter, and Holzer 2014).

Further, scholars have yet to solve the problem posed by Arnstein (1969) in her theory of the “ladder of participation”: that a jurisdiction’s motivations for participation adoption can range from remedial (to help address policy problems) to inauthentic. Arnstein describes the latter motivations as nonparticipation—manipulation and therapy—and tokenism—the placation of citizens’ wishes or consultation without ceding power. The problem created by jurisdictions offering empty participation rituals rather than opportunities to affect outcomes remains acute and gains further urgency as policy makers continue to embrace new forms of online participation.

So far, however, researchers addressing Arnstein’s theory have not empirically examined which variables correlate with jurisdictions seeking to manipulate citizens and which correlate with governments offering authentic involvement opportunities. Instead, many studies have offered normative advice on how administrators who want to offer authentic participation should proceed (e.g., Bryson et al. 2013; King, Felt, and Susel 1998). Others have tried to revise the ladder to include additional concepts such as collaboration (Cooper and Bryer 2007). This article is one of the first to offer an analysis exploring how several social variables affect where a jurisdiction’s offerings fall on the ladder of participation—that is, whether these opportunities constitute some type of nonparticipation or tokenism or actually offer an authentic participation opportunity.
According to a systematic literature review by Savoldelli, Codagnone, and Misuraca (2014), efforts to understand e-government offerings have largely neglected social and political explanatory factors. Ingrams et al. (2018) recently provided some clues as to how we may investigate the environmental context of e-participation offerings. They argued that ambiguous results in e-government research might be explained by the sensitivity of models to particular types of e-government tools as well as to the specific political conditions of a government. Political context becomes more important for participative types of e-government (Ingrams et al. 2018). Indeed, Ganapati (2011) found that normative and political motivations may be even more important than technical capacity in understanding a jurisdiction's ICT development. This underlines both Arnstein (1969) and King, Felty, and Susel’s (1998) earlier claims about how we should understand divergent motivations underlying participation initiatives.

When considering remediation versus manipulation approaches, the phenomenon of corruption is an especially important and, in a sense, puzzling aspect of the political context for e-participation, as e-participation is supposed to help address legitimacy problems in a remedial way (Jun and Weare 2010). Some studies have shown that citizen participation can counteract organizational pathologies in local government programs (e.g., Kim and Schachter 2013) and prevent corruption (e.g., Bertot, Jaeger, and Grimes 2010). However, research by Grimmelikhuijsen and Meijer (2015) found that the connection between online communication and legitimacy in the eyes of citizens is quite weak. Indeed, other research shows that e-participation may be responsive to citizens only in some circumstances because of the inherent disadvantages of online formats (e.g., Berry 2005; Kim and Lee 2012; Schatteman 2012; Yetano and Royo 2015). Such problems include that municipalities tend to focus e-participation initiatives on one-way communication involving news and statutory information, while participation should involve two-way processes demonstrated by online contact opportunities, e-deliberation tools, and social media (Chadwick and May 2003; Coursey and Norris 2008; Scott 2006).

Under conditions of perceived corruption, the consequence of this complicated scenario for Arnstein’s ladder of participation is a catch-22 for municipalities. Because of the endogenous factors that lead to corruption in the first place, rather than addressing the problem by becoming more accountable (a remedial approach), a municipality might proactively limit the participative capacities of its online offerings in order to create a positive public face (a window-dressing approach) and/or hide corruption (an avoidance approach). Because of the role of such endogenous factors, municipalities in this predicament are expected to make different strategic moves depending on the role of external social and political factors that are countervailing to corruption, such as social capital and public accountability demand in the jurisdiction. Further, we expect the response from the municipality to vary depending on the level of citizen responsiveness that the online tools allow—that is, e-information tools require relatively little responsiveness, whereas e-participation tool are much more demanding in terms of responsiveness.

To address this question, this article uses a website content analysis and secondary data from the Afrobarometer in South African municipalities to explore which sociopolitical interactions with corruption determine whether a municipality is more likely to respond in terms of remediation, window dressing, or avoidance in its e-participation adoption. We define responsiveness, following Powell (2004), to mean the way in which political and civic processes induce governments to implement policies that citizens want. According to Powell, such responsiveness is vital for democracy, so although it is sometimes difficult to trace the path between citizen demands and government responses, it is important to do so.

We look to the case of South Africa because it serves as an important example of e-participation development and the challenge of corruption. South Africa is in a phase of rapid e-government growth and has demonstrated intense interest in e-government innovation, some of which has been successful (Heeks 2002; Kaisara and Pather 2009). For example, the country now uses electronic voting booths in elections, even in very remote areas. Additionally, South Africa serves as a critical test of whether theory and practice diverge in the participation opportunities that municipal websites offer because it has a commitment to citizen participation enshrined in its constitution. The South African constitution states that the “people’s needs must be responded to, and the public must be encouraged to participate in policy-making” (section 195[1][e]). The Municipal Systems Act No. 32 (2000) reiterates these principles for the local government level. South Africa is one of six African countries with an e-government development index above the global average (United Nations 2014). Despite this background, research on South Africa highlights incongruence between theory and practice (Kaisara and Pather 2009), and the country continues to battle widespread government corruption (Bratton 2012; Cameron and Tapscott 2000).

There are obvious generalizability shortcomings in relying on data from one country. However, Gerring (2004) has argued for the utility of case studies in examining subjects about which little is yet known, and there are excellent reasons to use the case of South Africa to highlight the legitimacy-corruption conundrum of e-participation. South Africa represents quite a useful case of government corruption in terms of the possibility of comparing lessons learned in this jurisdiction to participation patterns in a range of other geographic contexts. South Africa shares features with Western democratic systems, being highly religiously and ethnically diverse and having a relatively free press, a vibrant civil society, and a strong democratic constitution. However, because of the prevalence of poverty, disease, kleptocracy, and economic instability, it also shares dysfunctional attributes with emerging or nondemocratic countries (Heller 2012; von Holdt 2013). While it is often difficult to know which features of one case will have generalizable attributes (Gerring 2004), South Africa’s position suggests that governments in a wide range of development niches could learn something from an analysis of how corruption influences its e-government offerings.

This article first reviews the scholarly literature on the relationship of sociopolitical factors and corruption to a jurisdiction’s developing e-participation opportunities. The review provides a frame to the arguments for deducing empirical hypotheses regarding the sociopolitical factors involved in the relationship. We then detail the measurement of survey items used to test the hypotheses and
Theoretical Background

Corruption is the “misuse of public position for private gain,” and it plays a central role in government legitimacy in the eyes of citizens (Brinkerhoff 2000). When it comes to e-participation offerings, ideally speaking, policy makers would address citizen perceptions of corruption by trying to make online tools more participative and accountable. Under this remedial approach, e-participation could help control corruption because participation brings the public closer to monitoring government decision making, and it becomes more difficult for personnel to manipulate decisions for their own interests (Bohara, Mitchell, and Mittendorff 2004). Following a similar line of thinking about the remedial potential of e-participation, Shim and Eom (2009) argue that e-government can reduce corruption because the digitization of street-level services increases public involvement, thereby preventing arbitrary diversions of public resources. A large body of empirical findings in different countries supports this idea that municipalities are driven by citizen expectations that government should be trustworthy and accountable by providing better avenues for participation, including through ICTs (e.g., Bruszt, Vedres, and Stark 2005; Saxena 2005).

On the other hand, other evidence suggests that perceived corruption may have the opposite effect on e-participation. Control mechanisms for corruption are vulnerable to spin, so governments may try to address the problem of perceived corruption by ramping up their ability to control public opinion to protect their own reputation (Bovaird and Löfler 2009; Larbi 2007). This is especially true in more authoritarian governments, where corruption is more likely to occur in the first place and its beneficiaries are more likely to be able to exert internal resistance to plans for remediation (Jiang and Xu 2009; Maerz 2016). Control of online tools is one avenue available to policy makers for political control (Ahn and Bretschneider 2011; Bussell 2010). Therefore, in governments where corruption is a common occurrence, it might better serve the interests of the city government to offer less or very little in the way of online participation tools.

Both of these mechanisms are plausible, and it is difficult to predict a priori the effect of perceived corruption on e-participation or e-information adoption without knowledge of the sociopolitical context or a more specific understanding of the types of e-participation tools. To help us address this ambiguity, we look to a body of literature that posits a conditional relationship between sociopolitical variables such as social capital and public accountability demand and e-information and e-participation development (e.g., Ahn and Bretschneider 2011; Chen and Hsieh 2009; Jiang and Xu 2009; Torres, Pina, and Acerete 2006). Social and political characteristics strengthen the responsiveness of political leaders to citizen demands (Araujo and Tejedo-Romero 2016). According to Torres, Pina, and Acerete, technology behaves “as an enabler within pre-existing social and political structures” (2006, 277). According to Brinkerhoff (2000), there is a complex range of social and political characteristics of citizens that contribute to the political will to address corruption. Sociopolitical variables are likely to moderate the explanation for the effect of perceived corruption on a municipality’s e-participation opportunities. So, it is to these variables that the theoretical discussion turns.

Social Capital

In this research, we look specifically at social capital as a form of social trust and bonding. Social capital is the primary bonding agent underlying many political and economic processes in society. It can be defined as “social networks and norms of reciprocity and trustworthiness that arise from them” (Putnam 2000, 19). Trust “arises out of networks of civic engagement and norms of reciprocity” (Gregory 1999, 64), and it is one of the main components of social capital (Brever 2003; Newton 2001; Yang 2005). Societies with higher trust in civic institutions are more likely to have responsive governments because trust facilitates cooperation and understanding (Brever 2003; Rothstein and Uslaner 2005). If citizens have high levels of social capital, they are likely to have stronger bonds with core public institutions such as membership associations and community and cultural organizations. It seems plausible, then, that because municipal governments are part of these local institutions, they would reciprocate by offering new online forms of participation to citizens.

On the other hand, there may be a negative relationship between social capital and e-participation because if citizens with high social capital are trusting and satisfied with traditional forms of civic participation, they do not need online innovations in participation (Goldfinch, Gauld, and Herbsion 2009). In their theory of “stealth democracy,” Hibbing and Theiss-Morse (2002) argue that citizens are least likely to demand greater participation in government when they are already trusting and there are high levels of government legitimacy. In this situation, it is unlikely that there will be any response to e-participation adoption. In fact, it is equally possible that e-participation levels will go down because there is less incentive for municipalities to adopt new engagement tools.

How can we determine which of these opposite mechanisms holds in the relationship between social capital and e-participation adoption? In itself, it seems unclear what effect social capital will have on e-participation adoption in local government. However, what happens to this equation under conditions of perceived corruption? Corrupt governments are less responsive to citizens than noncorrupt governments (Noesselt 2014; Shim and Eom 2009). Municipalities that suffer from a perception of corruption and already have moderate to high levels of social capital among citizens might have a lot to lose in terms of credibility if citizens begin to disengage. On the government supply side, then, high levels of social capital may convince policy makers that engagement with citizens is feasible and necessary—that e-participation efforts can win back legitimacy from citizens. Therefore, we hypothesize that there will be a positive moderating effect of high perception of corruption and high social capital on local e-participation.

The same bid for legitimacy is not realistic for e-information, which offers static, one-way information formats. However, withdrawing e-information tools (avoidance) also does not seem plausible given that e-government can help municipalities save money and the political costs of appearing to be behind the technology adoption curve are also quite high (Chadwick and May 2003; Tolbert and Mossberger 2006). For e-information, the expectation is unclear, but for e-participation we can hypothesize the following:
Hypothesis 1: Social capital positively moderates the effect of corruption perception on e-participation level.

Public Accountability Demand
According to Gil-Garcia and Martínez-Moyano (2006), citizen demands are linked to decisions to implement e-government reforms and to hold public officials accountable as such through sociotechnical norms embedded in technologies and in expectations of how to use those technologies. Indeed, prior research has confirmed that both implicit and explicit citizen pressure to enact change is one of the most important factors shaping the development of e-government (Chadwick and May 2003; Rodríguez Domínguez, García Sánchez, and Gallego Álvarez 2011). High accountability and participation norms pressure government into offering improved channels for online participation (Bertot, Jaeger, and Grimes 2010).

But what happens when high public accountability demand meets a perception of corruption? It should invigorate demand for legitimacy, but it might also cause public officials to hide. The connection between citizen demand for accountability and the consequences or impacts on behavior by public officials is achieved through complex sociopolitical structures (Berliner 2017; Bovens 2007). Corruption would be expected to influence this complex dynamic in some way. For citizens to have the ability to act on their demand for accountability, they need to have the technical tools for access to participation (Dauda 2006). Seeing this need, the easiest route for municipalities when perception of corruption is high and the level of public demand for accountability is also high is to create obstacles to these technical tools by reducing participation and accountability levels online. In other words, they are likely to anticipate invigorated demand and seek ways to hide.

These kinds of mechanisms have been observed in empirical research showing that accountability demand can be effective at tackling corruption so long as the demand is embedded in broader accountability relationships (Schatz 2013). But in online relationships, these accountability structures are unlikely to have strong control over bureaucratic behavior. In the face of public demand for accountability, but in the absence of broader accountability relationships, government officials can easily withdraw or manipulate information online. Therefore, we expect that when perception of corruption is high, the effect of strong public accountability demand on e-participation development will be negative for e-participation opportunities. From the point of view of the municipal government, the self-interested solution to this combination of strong accountability attitude and perceived corruption is to preempt online interactions. For e-information, however, a window-dressing reaction is more convincing: one-way types of information provision can window dress the municipality’s online offerings to strengthen the appearance of legitimacy without fear that these will create entryways for citizens that risk demand for accountability on corruption. Window dressing is a more rational approach than providing no e-information because, in the age of the internet, no provision is likely to lead to a citizen backlash.

Hypothesis 2: High public accountability demand negatively moderates the effect of perceived corruption on e-participation level.

Hypothesis 3: High public accountability demand positively moderates the effect of perceived corruption on e-information level.

Figure 1 shows the outcome of interactions of high levels of social capital and public accountability demand under conditions of perceived corruption. We do not find any convincing reason to expect that social capital will moderate the effect on e-information level, so we have termed this set of conceptual relationships redundant or irrelevant. But remedial efforts are expected, and e-participation offerings increase. In the case of public accountability demand, when corruption is high, there are expected outcomes: window dressing to create a positive public image for e-information and avoidance to close interaction possibilities in terms of e-participation.

Data and Methods
As this study’s aim is to examine relationships between sociopolitical variables and e-participation opportunities, we needed data on municipal website offerings and sociopolitical context. Accordingly, the data used to test the propositions on e-participation and democratic responsiveness come from three sources. The first source is the 2011 Census conducted by Statistics South Africa (SSA). The SSA supplied the data for control variables of population size and gross domestic product (GDP) (see table 2 later in this article). The second data source is the 2011 and 2016 Afrobarometer surveys of South Africa. The Afrobarometer is an in-person, in-country survey using a nationally representative probability sample of citizens of African countries. The Afrobarometer data were used to create mean indicators by year and by municipality for the political and civic engagement variables in the study. Individual-level data were aggregated at the municipal level by taking the individual means grouped by municipality. The aggregated variables include three variables: perception of corruption, public accountability demand, and social capital, as well as a control variable measuring internet access (see table 2).

This study tests the effect of sociopolitical variables on municipal adoption of various types of e-participation tools. However, this effect can take months or years from input to output because of lengthy bureaucratic and technical processes (Norris and Reddick 2013). Previous research has found that policy and program changes resulting from government decision making tend to be slow (e.g., Christensen and Lægreid 2007; Lindblom 1959). Therefore, the use of five years of e-participation initiatives is intended to account for the chronological realities of program development and implementation.

Typical Likert five-step response questions operationalized the variables for public accountability demand: “It is more important
for citizens to be able to hold government accountable, even if that means it makes decisions more slowly” (agree very strongly with 1 [better government gets things done]; agree with 1 [better government gets things done]; agree with neither; agree with 2 [better citizen participation] agree very strongly with 2 [better citizen participation]). For social capital, a five-part Likert scale detailing levels of membership addressed the question “Are you a member of a voluntary association or community group?”

The third source of data, used to construct the dependent variable of municipal e-participation and e-information level, is an index developed by the authors from a series of dummy variables that were generated from a content analysis of 104 municipal websites in South Africa. To increase the internal validity of this sample, we selected the websites of the two most populous municipalities in South Africa’s 52 districts. In the case of South Africa, it is necessary to take into account the incidence of absent or unmaintained websites in less populated rural municipalities. We found that in a sample of the 30 smallest municipalities, 17 (57 percent) either were nonexistent, were not functioning, or had not been in existence long enough for measurements to be taken over three years.

The country has 278 municipalities, but our sampling method follows the methodology of previous municipal e-governance survey instruments by selecting within population brackets and excluding the smallest municipalities when small population makes drawing inferences about citizen and governmental characteristics less valid (Moon 2002). According to Scott, the municipality must be “large enough to assume the cost of maintaining and developing its web presence” (2006, 346). There is significant size variation in our sample from the largest (Johannesburg, 4.5 million) to the smallest (Pixley Ka Seme, 83,200) (SSA 2016) municipalities. Our model includes population size as a control variable.

To measure the participation levels of the websites across time, the 104 websites were analyzed in the last quarter of each of five years, 2013–17. The website archiving tool https://web.archive.org/ provides snapshots of the websites including all the site’s subpages and live hyperlinks for a given period during the life of the websites. Thus, the website archive tool allowed us to gather website data from versions of the sites with active links exactly as they would have appeared in prior years. The content analysis used an additive index for analyzing e-participation websites adapted from Borge, Colombo, and Welp’s (2009) study of e-participation in Catalonia.

To identify website functions for the index, we also follow the measuring tool used by Scott (2006), including information about events and services, generic and personal phone and email contact information, feedback forms, and social media. Also following Scott (2006), we separate the index into two levels: (1) one-way information tools that provide one-way information on how to participate, such as news and events pages, a FAQ page, and a statement of information rights of citizens in the presence or absence of an access to information policy on the website; and (2) two-way participation with the individuals and programs of the municipality, including the availability of types of contact information for personnel as well as online portals where citizens can request or process information.

The index combined 16 such features in total (e-information, 7; e-participation, 9). We entered a 0 or 1 depending on whether the feature was present. Three coders carried out the content analysis, and 20 (19.2 percent of the total) of the websites were evaluated twice by two different coders in order to create a reliability sample. A Cohen’s kappa intercoder reliability score was calculated at 0.79, and a Pearson’s correlation was also 0.79. A Cohen’s kappa score in the range of 0.60 to 0.79 is considered a sign of substantial agreement between the coders and is a good indication of the reliability of our coding method (Landis and Koch 1977).

As table 1 shows, the common observation by e-government scholars that e-participation tools remain predominantly informational or focused on low email or phone access rather than promoting deliberation holds in the case of municipal government websites in South Africa. While large majorities of websites have generic phone numbers (84.4 percent) and email addresses (70.6 percent) for communication between citizens and government, fewer numbers give contact information for specific, named government officials (phone, 33.3 percent; email, 23.8 percent). Such contact information or transparency about internal management matters not just because it provides more detailed information for citizens, but also because the features are a channel for municipality-citizen interaction that enable responsiveness to citizen complaints, contact for communication and dialogue, or, potentially, a tool for criticism. A histogram of the distribution of e-participation scores showed that the scores were normally distributed. The descriptive statistics for the dependent and independent variables are reported in table 2.

The study used a time series model because such models estimate the most accurate parameters for data with repeated measures over several years. An insignificant chi-squared result for a Hausman test suggested that a random effects model is a more efficient model than fixed effects. Three additional reasons for random effects support this decision: (1) there is no reason to believe that the explanatory variables would vary much over the three years; (2) unobserved heterogeneity is not expected to correlate with the observed variables; and (3) we wish to extrapolate the findings of the model beyond the sample of municipalities in the study (Greene 2003; Zhu

| Table 1 | E-participation Tool Averages (N = 470) |
|---------|----------------------------------------|
| Website Tool | Percentage Use |
| E-information |  |
| News page | 67.7 |
| Events page | 44.0 |
| FAQ page | 7.80 |
| Statutory and legal documents | 84.0 |
| Services information | 0.14 |
| Access to information policy statement | 7.09 |
| Multiple languages setting | 3.20 |
| E-participation |  |
| Reception desk contact phone number | 84.4 |
| Department phone numbers | 51.4 |
| Named official phone number | 33.3 |
| General email address | 70.6 |
| Department email addresses | 30.9 |
| Named official email addresses | 23.8 |
| Facebook | 39.4 |
| Twitter | 30.9 |
| Other type of social media | 11.3 |
Table 2  Descriptive Statistics and Measurement Items

| Variable                           | Measure                                                                 | Obs. | Mean    | SD     | Min. | Max. |
|-----------------------------------|-------------------------------------------------------------------------|------|---------|--------|------|------|
| **Dependent variables**           |                                                                         |      |         |        |      |      |
| E-information                     | Derived from author content analysis. Continuous (0–7, 7 = high)        | 461  | 3.22    | 0.98   | 1    | 7    |
| E-participation                   | Derived from author content analysis. Continuous (0–9, 9 = high)        | 461  | 3.39    | 1.79   | 0    | 7    |
| **Independent variables**         |                                                                         |      |         |        |      |      |
| Social capital                    | Afrobarometer survey item: “Are you a member of a voluntary association or community group?” Ordinal (0–4, 4 = high) | 460  | 0.36    | 0.20   | 0.03 | 0.98 |
| Public accountability attitude    | Afrobarometer survey item: “Do you agree with the statement that it is more important for citizens to be able to hold government accountable, even if that means it makes decisions more slowly?” Ordinal (0–4, 4 = high) | 456  | 2.42    | 0.23   | 0.18 | 2.89 |
| Perception of corruption          | Afrobarometer survey item: “How likely is it that your local government councilors are involved in corruption?” (0–4, 4 = likely) | 470  | 1.61    | 0.29   | 0.88 | 2.27 |
| **Control variables**             |                                                                         |      |         |        |      |      |
| GDP per capita                    | Source: Statistics South Africa Continuous (natural log)                 | 470  | 19.67   | 1.37   | 17.6 | 24.36|
| Population size                   | Source: Statistics South Africa Continuous (natural log)                 | 470  | 13.39   | 0.78   | 11.17| 15.33|
| Internet access                   | Afrobarometer survey item: “How often do you use the internet?” Ordinal (0–4, 4 = high access) | 470  | 1.61    | 0.37   | 1.00 | 2.64 |

Table 3  Correlation Matrix

|       | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |
|-------|------|------|------|------|------|------|------|------|
| 1. E-information                  | 1    |      |      |      |      |      |      |      |
| 2. E-participation                | **0.17** | 1    |      |      |      |      |      |      |
| 3. Social capital                 | 0.04 | -0.04 | 1    |      |      |      |      |      |
| 4. Accountability demand         | 0.07 | -0.07 | -0.04 | 1    |      |      |      |      |
| 5. Perception of corruption       | 0.07 | -0.04 | 0.01 | -1   | 1    |      |      |      |
| 6. GDP per capita                 | **0.16** | -0.02 | 0.08 | 0.04 | -0.08 | 1    |      |      |
| 7. Population size                | ***0.25 | *0.12 | ***0.30 | **0.20 | *0.14 | ***0.46 | 1    |      |
| 8. Internet access                | ***0.17 | ***0.24 | 0.00 | -0.14 | -0.11 | ***0.29 | ***0.36 | 1    |

2012). Estimates were performed with standard errors clustered by municipality to control for the fact that the three time observations within each municipality are not independent of each other.

We included three control variables that previous empirical analyses have identified as important to e-participation development. The first control is population size, for reasons discussed earlier. The second control variable is access to the internet. Governments today seek to take advantage of e-participation tools, but they can only do this if citizens have the necessary access and skills to use technology (Lee, Chang, and Berry 2011). The third control variable is GDP per capita. Previous global comparative studies have found that development of public programs such as e-participation is positively associated with GDP per capita (e.g., Pollitt and Bouckaert 2004).

Results
We tested the levels of correlation among the variables and found that many have low to moderate levels of correlation, meaning that they are distinct, though related, constructs and therefore suitable for regression analysis (table 3). The e-information and e-participation dimensions are moderately and positively correlated. There is a small negative correlation between public accountability demand and social capital. The control variables have moderate correlations ranging from 0.29 for GDP and internet access to 0.46 for GDP and population size. The low correlations among the survey items suggest that they are unlikely to capture other underlying municipal characteristics that explain e-participation level.

Table 4  Regression Results

| Model | Independent variables | E-information | E-participation |
|-------|-----------------------|---------------|----------------|
|       | Social capital        | Model 1       | Model 2       | Model 3       | Model 4       |
|       |                       |               |               |               |               |
|       | -0.012                | -0.576        | -11.73        |               |               |
|       | (0.459)               | (12.095)      |               |               |               |
|       | Public accountability demand | *0.659 | 0.241 | 14.775 |             |
|       | (0.324)               | (1.717)       |               |               |               |
|       | Perception of corruption | *0.601 | 0.221 | 19.576 |             |
|       | (0.303)               | (3.416)       |               |               |               |
|       |                            |               |               |               |               |
|       | Social capital * Corrupt |       | 6.836        |               |               |
|       | (1.435)               | (1.717)       |               |               |               |
|       | Accountability * Corrupt | -0.330 | *-9.319 |             |
|       | (1.435)               | (1.435)       |               |               |               |
|       | GDP per capita         | 0.169         | 0.164         | -0.239        | -0.237        |
|       | (0.091)               | (0.089)       | (0.194)       | (0.189)       |               |
|       | Population size        | 0.039         | 0.138         | 0.244         |               |
|       | (0.102)               | (0.104)       | (0.201)       | (0.193)       |               |
|       | Internet access        | 0.363         | 0.340         | **1.320**     | **1.434**     |
|       | (0.245)               | (0.251)       | (0.482)       | (0.451)       |               |
|       | Constant               | -1.462        | **-24.701**   | 0.302         | **-31.341**   |
|       | (1.482)               | (8.816)       | (2.721)       | (12.095)      |               |
|       | Observations           | 437           | 437           | 437           | 437           |
|       | Groups                 | 104           | 104           | 104           | 104           |
|       | Between $R^2$          | 0.11          | 0.13          | 0.11          | 0.23          |
|       | Overall $R^2$          | 0.09          | 0.11          | 0.08          | 0.20          |
|       | Wald Chi-squared       | **19.85**     | **21.80**     | 15.38         | **37.09**     |

Note: Robust standard errors in parentheses. * p < .05; ** p < .01; *** p < .001.

Table 4 shows the results of the panel data analysis. There are 437 observations across all the models. A variance inflation factor (VIF) test found that all variables have VIF scores under 4, which is well below the conventional threshold of 10 indicating low and acceptable levels of multicollinearity (Kennedy 2003). The model shows broad support for the study’s hypotheses, but there are also important null findings. For the direct effects (models 1 and 3), estimates are significant only for the e-information dimension. Social capital has no direct effect on either e-information or e-participation level. Although we did not put forward any
hypotheses for direct effects because there are no clear grounds for theoretical expectations, perception of corruption is positively associated with e-information level. Public accountability demand is also positively associated with the e-information level. However, the positive effect is not statistically significant for e-participation level. The moderation hypotheses are both confirmed, but only for e-participation level.

It is notable that the moderation effects are only significant for e-participation because it underlines how important these sociopolitical factors are as moderating conditions of higher participative levels of website development. The variables do not directly predict adoption of e-participation tools, but when they interact with perception of corruption, they make a difference for e-participation responsiveness. As hypothesized, social capital and public accountability demand work in opposite directions. High levels of perceived corruption combined with high social capital are associated with higher levels of e-participation opportunities (hypothesis 1), while high levels of perceived corruption combined with higher public accountability demand are associated with lower levels of such opportunities (hypothesis 2).

Table 5 shows the predicted probabilities of the moderated effect of perception of corruption on e-information and e-participation level at varying levels of social capital and public accountability norms. The marginal effects confirm the mirrored effects of the two independent variables for e-participation, with perception of corruption having a negative association at low levels of social capital but a positive association at high levels of social capital. Moreover, the directions of the e-information effects match the e-participation effects rather than working in opposite ways, as we expected. None of these marginal effects is significant at $p < .05$ for e-information level, again confirming the low salience of interaction effects for e-information compared with e-participation. As predicted, perception of corruption has a negative association with the e-participation level at high levels of public accountability norms. Hypothesis 3 concerned window-dressing effects when e-information levels rise in response to low public accountability demand under conditions of high perception of corruption, but this hypothesis is not supported by the results. In fact, while not affecting e-information levels, low public accountability demand and high perception of corruption appear to actually raise the level of e-participation opportunities.

**Table 5** Marginal Effects of Corruption on E-participation under Low, Medium, and High Levels of Social Capital and Public Accountability Norms

| Moderator effects  | E-information | E-participation |
|--------------------|---------------|-----------------|
|                    | dy/dx         | SE  | p-value | dy/dx         | SE  | p-value |
| Low public accountability | 1.639 | 2.343 | 0.484 | 15.975 | 4.933 | 0.001 |
| Medium public accountability | 0.307 | 0.701 | 0.661 | 4.213 | 1.453 | 0.004 |
| High public accountability | −1.024 | 3.575 | 0.775 | −24.401 | 7.453 | 0.001 |
| Low social capital | −4.390 | 2.630 | 0.095 | −10.869 | 5.331 | 0.041 |
| Medium social capital | 0.862 | 0.747 | 0.249 | 1.726 | 1.211 | 0.154 |
| High social capital | 6.114 | 3.839 | 0.111 | 14.321 | 7.399 | 0.053 |

The findings in this study add further coherence to these conditionalities of the link between social capital and e-government. Previously, Sæbø, Flak, and Sein (2011) used the lens of stakeholder theory to suggest that citizens can trigger e-participation efforts depending on their power, legitimacy, and sense of urgency. They argued that trust plays the role of a relationship and solidarity-building mechanism that facilitates the adoption of e-participation tools. The contribution of our study on these citizen capacities is to further show how a related construct, social capital, acts as an innovation-shaping mechanism in the sphere of e-participation. The results of this research suggest that if social capital is high, high corruption can nevertheless be addressed through remedial efforts to improve two-way forms of e-participation. On the other hand, the results echo the wide finding in prior research that social capital and other correlates of trust have no clear direct relationship with e-government development. By considering the effects of social capital in a moderated model, this analysis provides a different way of understanding the ways that trust influences the sociopolitical landscape of government responsiveness.

The second main contribution of this article is the finding that public accountability norms negatively moderate the effect of perceived corruption on e-participation opportunities. Our finding suggests that if public accountability demand is strong and, conjointly, underlying problems with legitimacy exist, government might actually choose to withdraw from participation. This seems more in line with research that considers the different ways that weakly democratic governments can be responsive to sociopolitical conditions while avoiding accountability. For example, Noesel (2014) found that an authoritarian government like China was slowly becoming more responsive to citizen values and beliefs expressed online while remaining insulated from democratic reforms from the inside. External pressures such as citizen demand for public accountability may have a negative effect on e-participation levels because corrupt governments fear the repercussions of scrutiny and
accountability. Rather, to build effective e-participation responses to public accountability demand, internal structures of accountability along the lines described by Ahn and Bretschneider (2011) that deliver checks, balances, and reward or punitive repercussions for officials may also be necessary. Otherwise, public officials can easily pursue avoidance strategies.

Separately, our theory did not anticipate the finding that the interaction of high corruption and low public accountability demand is associated with higher e-participation levels. This might be evidence of a different type of window-dressing strategy involving a gamble by municipalities to build e-participation tools to enhance legitimacy even though it risks higher levels of interaction and responsiveness to citizens. Perhaps when public accountability demand is low, the gamble is viewed by municipalities to be low risk. However, this possibility requires further investigation.

Third, a central finding of this research is that the interactions of sociopolitical factors are more important for understanding how jurisdictions provide interactive forms of e-participation, while the sociopolitical effects for e-information tend to be simpler and more direct. That municipalities give more attention to providing e-information tools is reflected in prior research. For example, Mossberger, Wu, and Crawford (2013) found that push strategies when governments use one-way types of communication dominate at the local level, while pull strategies aiming to draw citizens into two-way participation occupy a smaller slice of the landscape of e-participation offerings. The results of our work provide a sociopolitical explanation for why jurisdictions may provide different tools in different political circumstances. Municipalities seeking public legitimacy are faced with a range of citizen characteristics such as social capital, accountability demand, and perceived corruption, and the municipalities decide strategically whether to “turn up” or “turn down” offerings depending on how they will affect legitimacy in each case. These main findings are not only important in their own right but offer exploratory evidence of how social factors can impact where jurisdictions situate their participation efforts on Arnstein’s ladder of participation, one of the most highly cited studies in citizen participation research.

The work contributes valuable findings to this area of strategic governmental behavior in the context of a country that suffers from serious issues of legitimacy and regularly deals with the problem of corruption in a way that the Organisation for Economic Co-operation and Development countries studied in most prior public administration research do not have. South Africa is therefore a useful lens to understand the sociopolitical dynamics involved in e-participation development in countries with deep challenges for legitimacy. Prior work by Maerz (2016) suggested that governments with low levels of democracy either approach online offerings through noncompetitive or competitive mechanisms. In the former, websites are used for gaining legitimacy, particularly on the international stage. For the latter, the goal of legitimacy is complemented by a goal of galvanizing political support from local citizens (Maerz 2016). As South Africa has used multiparty elections since 1994 it has more of a competitive approach to municipal governance. Therefore, it makes sense that the present research has uncovered ways that e-participation offerings may be driven by political strategies to gain support from local citizens depending on their sociopolitical profile.

Limitations and Weaknesses

While South Africa shares political traits with both democratic and nondemocratic countries, and this makes it an ideal case for exploring the topic of low legitimacy and e-participation responsiveness, researchers cannot necessarily generalize the findings of the study to municipal government behavior in other national contexts. Further studies are needed to show similarities and differences under different political regimes.

Another limitation is that because of the kinds of estimation models used in the article, the findings on the relationships between variables should not be construed as proof of causation. The estimated parameters suggest that key constructs are associated and that they may interact in causal ways. However, we can only infer correlations from the statistics. The persuasiveness of the theoretical explanations depends on the internal and external validity of the operationalizations, as well as the internal logic. However, rival explanations could justifiably be held up for consideration. For example, it is possible that the quality of a municipality’s e-information or e-participation offering influences social capital and citizen public accountability norms, rather than vice versa. However, we would argue that social capital and citizen values such as accountability are deeply embedded in social and civic institutions and created over a long period of time. It is unlikely that e-participation offerings, which are a relatively recent phenomenon, would have influenced the shape of such historic sociopolitical trends.

Conclusion

This article explored a pervasive ambiguity in e-participation adoption literature regarding how governments respond to citizens in situations of low legitimacy stemming from corruption. The lens of sociopolitical determinants was used to explore how perception of corruption interacts with sociopolitical factors to trigger online actions from municipalities in South Africa. A literature review considered the extent to which prior research supports different types of relationships. Logical frameworks were developed to explain the possible relationships and hypotheses were put forward. Typologies conceptualized possible municipal e-participation responses as window dressing, avoidance, redundancy, and remedial efforts.

As expected, the results showed that effects vary depending on whether the online offerings are of a one-way informational or a two-way participative type. Social capital moderates the effect of perceived corruption on e-participation opportunities suggesting a remedial impact of high social capital on e-participation offerings but an avoidance strategy by municipalities when perceived corruption is high but social capital is low.

The second sociopolitical variable, public accountability demand, acted in an opposite way to social capital: at high levels, public accountability demand, negatively moderated the effect of perceived corruption, which is indicative of an avoidance strategy. We hypothesized a window-dressing strategy for e-information opportunities when perception of corruption is high but social capital and public accountability demand are low. However, we
found no evidence of window-dressing effects. The direct effects of accountability demand and perception of corruption may be evidence of window-dressing effects, but other mechanisms not tested here are needed to be explored in future research to explain why those factors would lead to window-dressing responses. Instead of window-dressing effects, we find that avoidance effects, whereby municipalities choose to neglect e-participation opportunities, or remedial efforts effects, whereby municipalities choose to improve e-participation opportunities, are more likely to occur.

The results add a new sociopolitical perspective to our understanding of contradictory effects in the ambiguous relationship between the motivation of government for legitimacy and adoption of government website tools. Different effects are mutually consistent so long as the sociopolitical context of government is taken into account. The treatment of social capital as an important sociopolitical factor alongside previously addressed dimensions of trust is a valuable step forward for the field. The findings are particularly useful for our understanding of e-participation in governments with low democratic performance where the link between democracy and e-government is less clear.

Despite these interesting findings, there are limitations in the generalizability of the findings from the case of South Africa. Moreover, the causal relationships between the study’s variables should be further explored in qualitative analyses to establish why such associations exist between the variables, and to build better understanding of the psychological motivations of public officials, and the underlying mechanisms in the online citizen-government interface.

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