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**The Impact of the Web 2.0 on Citizen Participation:
The Social Construction of Emerging Technologies for Future Governance**

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I. Introduction—the Web 2.0 Explosion

The development of e-government is surely a strong trend in the nature of contemporary government. Emerging technologies, Web 2.0, such as Facebook, MySpace, and YouTube give ordinary citizens a greater voice in public issues (Lukensmeyer and Torres, 2006), and provide new opportunities for citizen participation and public deliberation due to dynamic, two-way, interactive features, which allow for commenting, tagging and collaborative editing functions. In the 2008 presidential election, we observed the important roles of these emerging technologies. Web 2.0 technologies were major sources for citizen to seek political information, create civic and political awareness and draw citizens into public deliberation and collaboration. 74% of internet users went online during the 2008 election to take part in, or get news and information about the 2008 campaign (Pew Internet & American Life Project, 2008).

In reality, however, the digital divide problem is still prevailing. Citizen engagement through electronic channels is lower than expected. Individual citizens' information technology capacities may be especially important in addressing the digital divide in a new era of the information society. At the same time, public administrator's attitude toward the potential of e-government and e-democracy can be important to deal with citizens. *Will new impacts of emerging technologies transform notions of citizenship? Can we continue these constructive uses of emerging technologies? Can we really improve the relationship*

between public administrators and citizens through new IT technologies in the future e-governance? This study examines these questions through the lens of social construction theory. This study illustrates whether construction of action strategies is possible through the citizen participation (Jun, 2006) and communicative action (Habermas, 1981) in E-government/democracy efforts.

II. The Idea of Social Construction and Web 2.0

The idea of social construction is the foundation of the symbolic-interaction approach. The idea of social construction embraces relationship, interdependence, reciprocity and dialectic. “Reality on e-governance” remains unclear in everyone’s minds, especially in unfamiliar situation such as the use of new Web 2.0 technologies and the future path of e-governance which is unknown to us. Social interaction is a complex negotiation that builds the reality. Perception of citizen-to-citizen online deliberation are based on different interests and intentions. Thus, the idea of social construction will be helpful to overcome the dualism, such as the objective versus subjective view, top-down versus grass-root bottom up approach and centralization versus decentralization. Many characteristics of the social constructionist approach are discussed in the literature of participatory and deliberative democracy, governance and the sociology of knowledge (Jun, 2006).

III. Emerging Information Technologies: Wikis, Blogs and E-forums

Wikis, blogs, e-forums and other social software such as Facebook, MySpace and Twitter support new types of web-based citizen discussion and interaction that could facilitate collective decision-making and other democratic processes. I briefly outline several tools that may support and foster increased citizen participation, especially citizen-to-citizen discourse on issues of interest. Various emerging tools are making it easier for people to express what they think about politics and government services (Perlman, 2006). Citizens engage in self-expression and engage each other in debate (Froomkin, 2003).

Wikis are collaborative contents created document management systems, accessible through web browsers where “groups of people with no pre-existing ties to one another can build and manage high-quality and valued content online” (Lukensmeyer and Torres, 2006, p. 33). Typically, wikis allow visitors to add, remove, and edit content, with or without user registration. The process of creating shared edited documents is a form of discourse, and the finished, or continually evolving, products are themselves contributions to larger discourse (Froomkin, 2003).

Blogs, one of the latest examples of the internet’s democratization of publishing, are user-generated web logs using a journal style, and displayed in a reverse chronological order. They look like personal journals. Blogs also illustrate how the ease of publishing can stimulate debate. Bloggers read and react to each other’s work, creating new commons for debate, (highly energetic and enthusiastic, if not necessarily always deeply deliberated). According to one of empirical study, blog discussion was the primary determinant of mainstream media coverage of the “Yes We Can” music video during last 2008 president election. The interest of bloggers is a central factor in explaining the rise, spread and decline of political videos (Wallsten, 2008).

E-forums are structured web-based discussions with user-generated content typically following a set of rules imposed by e-forum managers (e.g., limitations to the number of posts per day, censorship of inappropriate language or off-top comments). Participants can start new discussion threads or reply to existing threads. E-forums are commonly hosted by high-traffic internet websites. Participants go through a minimal registration process to post comments in forums. Each message entry in E-forum is typically organized in a threaded structure to allow for replies to be easily tracked (Torrey, Burke, Lee, Dey, Fussell, and Kiesler, 2007).

IV. Wikis for Citizen Participation

Wikis, blogs, e-forums, and other social software tools are making it easier for citizens to contact governments and for governments to gather valuable information directly from citizens. Public officials learn about issues important to participating citizens from these new tools (Perlman, 2006). Among numerous innovative tools, wikis, blogs, and e-forums have received significant attention from e-government researchers. Some researchers have suggested that wikis may be the best avenue for getting information to the public (Wagner, Cheung, and Ip, 2006). In addition to the conventional web pages of government agencies, a second interactive layer could be added to allow outside parties to provide contextual information and pull together disparate strands of data. Wagner et al. (2006) argue that the creation of a semantic web infrastructure that would meaningfully organize e-governance resources is highly desirable. Some argue that challenges for the feasibility of semantic web creation, such as, the complexity of existing e-government implementation and the matter of reliability of contents in the discussion layer by citizens, can be met by government (Jackson, 2006). Specifically, Jackson argues that government agencies can provide corrected version of wikis, and check and verify all elements of an overlay structure and information contained in content pages. Kavanaugh et al. (2007) counter that it is unrealistic to imagine that government in the U.S. will take on such citizen discussion or fact-checking, verification and correction of citizen-created content on government websites. Government has neither incentive nor mandate to support citizen discussion online, and has consistently avoided doing anything like it (with rare exceptions). Kavanaugh et al.(2007) argue that is not necessary, nor even desirable, for governments to host citizen discussion on their own websites, instead, a model suggested by their case study of Blacksburg, Virginia indicates that it is possible to optimize citizen interaction while relieving government of direct responsibility for public commentary. This model is characterized by disturbed but linked content among different websites for government information, citizen discussion forums, and blogs. A citizen e-forum and/or blog aggregator can be linked to the government website, but hosted on other servers by other entities, such as, community network providers or existing blog aggregator services.

V. Blogs for Citizen Participation

Blogs can enhance communication among the interested public. Unlike e-mail between a citizen and government official, blogs accommodate linked conversation among multiple participants. Even though there is Listserve email conversation, it does not allow for two-way record management for public agencies. In other words, without individual efforts to track Listserve email conversations, individual citizens cannot easily involve themselves in such communications. Carole Brown, a blogger and employee at the Chicago Transit Agency, reported “My blog is an incredible tool...to focus on issues most important to our riders, and they have no problem telling us what those are” (Perlman, 2006).

Government Blog: Town of Blacksburg

In Blacksburg, the town government, in collaboration with the community computer network known as the Blacksburg Electronic Village (hosted and managed by Virginia Tech) set up a blog for the work of a citizen-government task force to revise the Comprehensive Town Plan. The director of the task force, a town official, regularly updates the blog with documents related to the work of the task force, such as the original version and the proposed revisions to the comprehensive plan, along with the rationale provided by task force members for their proposed revisions, plus meeting agendas, minutes and related records. While the task force blog was open to the public, it was not accessible to the public for posting comments; only task force members could write in the blog (Kim et al., 2007). However, by linking the task force blog to the local blog aggregator site, the public (in the form of other bloggers) could point to, comment on and discuss the contents of the task force blog on their own blogs. Thus, the town conducted its work on blog (in addition to face-to-face meetings) and it made the blog accessible to the public to read, but did not have to host public discussion. Such discussion could take place within the blog aggregator site, where the task force blog was also linked. The town government has decided to use a similar blog format for a variety of future committee and task force work.

Community Blog: Flying Pickle

Flying Pickle is a free community blog for three suburbs (Korokoro, Maungaraki and Normandale) on the outskirts of Wellington, New Zealand. The goal of this site is to bring the community together in an open and democratic environment where people can exchange views, news, opinions, advertise their businesses in a friendly and non-intrusive manner as well as find help and support from others. It is similar to the U.S. community computer network (e.g., Blacksburg Electronic Village) but uses new technology, blog. Anyone living, working or just being connected to the area can join the blog and contribute contents, be it an announcement, garage sale advertisement, news or opinions. To increase the citizen participation, the best contents from the blog included in the Flying Pickle Print edition that is regularly delivered free to every household in that community.

VI. E-forums for Citizen Participation

E-forums are large online discussion sites for consideration and debate about public policy issues. They have been developed and deployed for local, regional, national and even international citizen deliberation (Hick and McNutt, 2002). Examples include Minnesota E-Democracy, EU Government eForum, and the City of Darebin, Australia. The e-forum is one of the earliest technologies for collaborative knowledge creation and knowledge sharing (Wagner, 2005); it has successfully stimulated citizen deliberation (Kirn, 2002, among others). One of the strengths of e-forum is that interested citizens can find them fairly easily, since they aggregate citizen deliberation within a centralized website. To foster trust among participants, there are various built-in mechanisms, such as use of one's own name, profiles, and points earned for useful comments. Typically, there is a set of rules for use of the forum that help to keep discussion on topic and civil. But these same features are also weaknesses in e-forums for promoting public deliberation, as they tend to attract only the most motivated and active participants. They fail to capture the thoughts and opinions of the more passive, but still interested and well informed majority of citizens (Kavanaugh et al., 2005). Participants must go to a specific website for the online forum, create an

account and learn the rules of the program in order to participate. Most people are not willing to go there through these hurdles in order to express their opinions or engage in discussion online. Thus, a centralized forum tends to attract activists rather than widening the discussion to more of the general population and increasing the total number of participants in public deliberation.

VII. Conclusion

Blogs attract many diverse voices and a broader political spectrum of participants from the politically active to politically apathetic and everything in between (Kavanaugh et al., 2008). From a usability point of view, the strength of blogs is their easy set-up, informal nature, conversational tone, and the user control (rather than manager control) over writing, commenting on, or reading content. These features, however, are also some of the weakness of blogs from a user point of view. The vast number of blogs and their lack of centralized organization make it very difficult for an interested user to find a particular blog or a particular topic of discussion that s/he is interested in following or joining. In order to help users easily discover topics of conversation among a selection of blog (such as those on a blog aggregator site), Tauro and colleagues (2008) have developed a visualization tool that displays blogs in clusters based on similarity of content (topic) and/or shared links. This work contributes to the set of tools already developed (e.g., Technorati, trackback) to help interested citizens identify and participate in discussions with a wide and diverse set of users. Ideally, government information would be linked to other sites for citizen-to-citizen discussion that comprises both centralized (e-forum) and decentralized formats (blog visualization) in order to support and foster increased participation by a broad and diverse citizenry.

Most commentators argue that current e-government efforts focus on managerial issues rather than democratic citizen participation. The idea of social construction rejects this type of dualism on e-governance. Both centralized and decentralized approaches on e-governance should be considered in order to support and foster citizen engagement. Emerging information technology is not a panacea for the future e-governance but there are constructive potentials.

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