E-governance As Digital Ecosystem:
A New Way to Think About Citizen Engagement and the Internet?

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Abstract

There has been a long history of attempting to deploy networked information and communications – mostly in the form of the Internet – to support the broad goals of effective, efficient and responsible democratic government. While there has been considerable talk about the way such technologies might promote better governance – through increased citizen participation in debates and discussions about future outcomes – there has been, in contrast, much action that actually uses the Internet for more efficient government, by creating online and networked interfaces by which citizens can transact business with government. There has been only limited success in using the Internet and similar communications channels to allow citizens to participate in their own governance. Undoubtedly, the Internet does facilitate public consultation. For example, the European Commission used an Interactive Policy Making web tool for public consultation on legislation for regulation of chemicals. Over 6,500 contributions were received over a period of 2 months and the consultation process led to the identification of key flaws in proposals, saving billions of Euros (Timmers, 2008). However, consultation of this kind tends to be a mechanism for gathering opinion and gaining citizen approval for change that is not different except in transmission form than previous approaches based on meetings and written submissions. While the European Commission example can be seen as successful, Internet-based consultation can too easily become promotional or marketing oriented, as in recent efforts in Australian by the Federal Communications Minister to use a blog to discuss proposed changes to Internet censorship regulations: in this case, discussion and debate from participants appears largely to have been ignored in favour of a pre-existing position. This paper aims to provide a solution to some of these problems by drawing on the idea of how the Internet can host and support a digital eco-system.

Introduction

Social networking media like Facebook are a double-edged sword for modern businesses and governments alike. Open forums thrive precisely because they are open. The more a company tries to take advantage of an open forum, and control it, the more likely they are to find that they have no fans. This was precisely what happened to Wal-Mart in 2009 when it encountered difficulty with Facebook and MySpace. In the case of Wal-Mart's MySpace site the company closed its representation after only ten weeks (Owyang, 2007). In the case of Facebook, Wal-Mart did not allow users to post comments or participate in discussions, compared with businesses like Target that allow negative comments on its site. By May 2009

Wal-Mart on Facebook had 13,963 fans compared with the Boycott Wal-Mart page with 12,798 fans. Restricting the site had a direct and negative impact (Wilson, 2007). The company, Target, by comparison allowed users to post negative comments and as a result had a significantly greater fan base.

The challenges of "openness" have not escaped government and business interest in how to create software and management architectures that allow businesses and customers or citizens to pass information and exchange advice. The idea of a digital-ecosystem emerged precisely to assist with collaboration and co-operation. A digital eco-system has been described as "a self-organising digital infrastructure aimed at creating a digital environment for networked organisations that supports the cooperation, the knowledge sharing, the development of open and adaptive technologies and evolutionary business models." (European Commission, http://www.digital-ecosystems.org/). The use of the Internet for policy development, by and with an engaged public participating in their own governance, the authors will argue, is more likely to be successful when approached from the eco-systemic perspective.

Our paper will then discuss the possible usefulness for e-governance of models like the PEARDROP system (http://www.peardrop.eu) that is experimentally being used to support business innovation by allowing sharing of digital objects, such as professional software applications, training modules, professional profiles and so on. This system theoretically allows every actor, small or large enterprise, public or private body, to make a simple profile description of its organization and the platform is able to find the most efficient business links between them to increase existent activities and to create new business possibilities. While created for a business environment, the approach and system can be adapted to other environments and has the elements needed to build platforms for elaborate citizen engagement in policy making.

E-government and E-governance

Government is not governance. Guy Peters says that the distinction became particularly marked in the 1990s with the impact of private sector networks outside public administration on policy:

"Perhaps the dominant feature of the governance model is the argument that networks have come to dominate public policy. The assertion is that these amorphous collections of actors— not formal policy-making institutions in government—control policy. State agencies may place some imprimatur on the policy, so the argument goes, but the real action occurs within the private sector. Further, in the more extreme versions of the argument, if governments attempt to impose control over policy, these networks have sufficient resiliency and capacity for self-organization." (Peters & Pierre, 1998, 225)

In *The Future of Governing* Peters described, before the emergence of the Internet, alternative macro-models of governance that he saw emerging. They were: (i) *The Market Government Model* where policy making and deliberation is achieved through internal markets and market incentives; (ii) *The Participative Government Model*, "almost the ideological antithesis of the market approach" (1996, p. 47) where there is removal of hierarchical top-down controls and policy making is accomplished through consultation and negotiation; (iii) *The Flexible Government Model* where policy making is accomplished through experimentation; and (iv) *The Deregulated Government Model* where policy making is achieved through entrepreneurial government.

Governments have attempted to create an impression that they are 'engaged' through the Internet with citizens and that this engagement is 'participative'. The *Citizenscape* website of the Western Australian government for example seeks to promote citizenship related activities (www.citizenscape.wa.gov.au. Its approach is described in the following way:

"2.1 Citizen centric approach. Citizen Centric is defined as: Designing and delivering services based on the needs and delivery preferences of citizens rather than the structures and processes of an individual agency.

WA Government agencies must commit to delivering information and services in a citizencentric manner. Key considerations:
• conduct user testing/market research
• allow for user consultation, participation and input
• undergo regular reviews, performance assessments and reporting
• deliver via appropriate technologies and methodologies." (DPC 2008)

Citizenscape, however, does not involve citizens in actual decision-making. There is no actual way for a West Australian citizen to participate in the day to day deliberations of West Australian government policy making or indeed to "consult". At present most examples of e-participation are enhancements of feedback mechanisms rather than examples of direct participation in policymaking and decision-making. As Grossman (1995) long ago pointed out actual participation in local or state decision-making is the key modeling problem.

Modeling of "e-governance" platforms on the Internet, or potentially participative government in Peters' terms, is emerging. In Europe, the www.gov2u.org initiative attempts to link citizens to decision-making processes and provides free software to do this following the European Commission ethos of "openness in the knowledge economy". The Give Your Voice project http://www.give-your-voice.eu/, part of gov2u.org, provides Gov2DemOSS software free and has live projects running to show how citizen engagement with government representatives might work, at least in terms of consultation. One Give Your Voice platform is being implemented in Baden-Württemberg (Germany) and one in Valencia (Spain). Citizens can, according to the site, directly contact their MEPs from their local region, ask relevant questions and voice opinions. Politicians may react immediately to proposals and answer queries. "VoicE allows them to listen to their voters' concerns and learn more about their expectations of European politics." http://www.give-your-voice.eu/

The gov2u.org model is more complex than the model run by the West Australian government. It does not solve the key modeling problem of creating a system that allows people to participate in their own governance. The Give Your Voice approach gives citizens an opportunity to express their concerns, but this was already possible through email.

It is in activist groups where we can find models where citizens have the opportunity to influence governance and where the Internet has a major role. For example, GetUp! began in 2005 and is an Australian not-for-profit organization, grass-roots community advocacy organisation that relies on public donations. The organization's aim is to build an accountable and progressive Australian Parliament and does not support any particular political party. GetUp!'s campaigns are community based and coordinated mainly via email and the Internet with articulation to broadcast, print media and YouTube (Get Up!, 2005-2006, p.5). GetUp!'s approach in a recent campaign began with:

- A petition to the Communications Minister Senator Conroy to SAVE The NET (www.getup.org.au/campaign/SaveTheNet).
- An email to members about the issue—signing the petition is matter of typing your email address into a box, an easy to print Fact Sheet on Internet Censorship (a similar format to the government ones) is provided and members can forward petitions to a friend.

GetUp!'s approach to organizing its campaigns and its own governance starts to parallel to Peters' ideas on a Participative Government model, compared with those Internet models put forward by governments themselves. GetUp!

1. Provides a diversity and surplus of information sources to its members.

2. Exemplifies the principle of shared collaborative access. Rules and structures based on collaborative access are essential for the democratic active forum's day to day operations and in developing social capital over time. Shared collaborative access is not just a rules based system for joining or operating in an active forum but a recognition of the principle of peer to peer relationships.

3. Enables participation in decision making. GetUp! is particularly successful in giving its members a feeling that they have contributed to outcomes, no matter how small.

4. Develops skills necessary to participate in democratic decision-making (eg toolkits on collaborative meetings, etc).

GetUp! with over 250,000 members is an example of a successful mainstream activist group using the Internet to join its members, provide resources and take action. What it is missing is a broader infrastructure to build knowledge over time or to act as a general 'public road'. It is Digital Business Ecosystem (DBE) approaches that have taken up this modeling problem.

Digital Ecosystem

The expression Digital Ecosystem is only five or so years old (Nachira, Dini & Nicolai 2007). The concept is used in Europe to refer to an open source ecosystem-oriented architecture. Distributed middleware acts as a new information commons, "or as a public road that lowers the cost of ICT adoption and maximises the reuse of models." (2007) The aim is to create a fully decentralised architecture and a P2P structure that is robust, scalable, self-organising and self-balancing. The open source implementation is freely available at http://swallow.sourceforge.net/, http://dbestudio.sourceforege.net, and http://evenet.sourceforge.net. The pilot software is being trialed by SMEs in pilot regions in Europe.

The aim of the model is to build a digital ecosystem that interacts with a business ecosystem, but that is not identical with it. In *A Network of Digital Business Ecosystems for Europe: Roots, Processes and Perspectives* the digital ecosystem is a digital representation of the economy (Nachira, Dini & Nicolai 2007). The "eco-system" metaphor may sound clumsy but its benefits in the English language relate to how we talk about economic versus social issues. "Ecosystems" in economics are most often those that provide positive externalities, benefits to all of us. For example, the fixed costs of setting up a network can be different

from the nature of the good or product that is consumed. Positive externalities are those goods that benefit all of us. Clean air and functioning ecosystems have positive externalities. The business digital ecosystems (DBE) approach argues that the consequences of the "consumption" of the digital ecosystem are beneficial to the whole of society. Access to knowledge, therefore, is a positive externality in the DBE model.

What the digital ecosystems researchers are creating, therefore, is both a set of principles governing the digital ecosystem and the actual software architecture representing those underlying principles. The practical delivery of the digital ecosystem is through toolkits prepared through initiatives like the PEARDROP (Promoting Ecosystems and Regional Development in support of Regional Operational Programming). The Toolkit provides a detailed guide to software, management models, potential roles of participants and indeed potential contracts between parties. There are various case studies to show how the system works. The example below is taken from the DBE.

" Let's imagine that Mr. Smith, manager of a car rental company, realizes that its company might suffer from tough competition in the coming years. He also realises that this is mostly due to the fact that he does not have enough time to dedicate to each of his clients (in a word were timings, quick responses and high quality services for clients are a must for SMEs to survive). In fact, Mr. Smith spends most of his time in trying to promote his car rental in order not to lose his little part of market share. Until now, he has used all possible means of promotion: phone calls, mailings, yellow pages, advertisement…All of these resources are time consuming.

After careful reflection, Mr. Smith decides to become part of the brand new "Digital Business Ecosystem" that his region is launching. In order to do so, the main steps that he needs to take are:

- add his profile to the ones part of the ecosystem. He will have to keep it updated in order to be part of the ecosystem

- adapt the software application that he normally uses to collect and register his services to the DBE platform. The DBE platform is some kind of common virtual platform that allows the profiles of the entities that compose the ecosystem to interact."

In the ecosystem the profile of Mr. Smith's business is retrieved automatically each time there is a request for any of his services. Mr Smith's promotion of his business therefore is done through the DBE leaving him more time to take care of other issues. Mr. Smith also benefits from the access to the profiles of all potential providers in the ecosystem. The DBE toolkit also argues that there is an "evolutionary" feature of the system where the DBE platform could not only show the direct results of the simple search of a user but also present other similar services retrieved by other users making similar searches.

This is not simply a "yellowpages" as it is underpinned by the principles of open access and training people into both the ethos and technologies of open access. Mr Smith is supposed to be an active agent in knowledge building and sharing. The knowledge is not owned by any one player. "In the tourism industry, for example, a conference centre could advise local hotels and guesthouses to expect a specified number of delegates as guests just as soon as plans for a major event are underway. Catering companies could, in turn, order the necessary equipment and stock. Airline seats could be reserved well in advance and bus operators and

taxi firms could be put on standby to collect delegates travelling to and from the conference - and even be automatically notified of any delays or cancellations." (PEARDROP).

Brazil, Ireland, Spain and other countries are beginning trials of digital ecosystems because they will, ultimately, provide a shared knowledge resource. What is interesting is that the DBE system builds a database of knowledge about businesses and transactions that evolve over time in a way that the e-governance work like Give Your Voice does not. Give Your Voice does not put pressure on politicians or aggregate issues relevant to policy portfolios as it is not designed to do this and its interactions are not direct participation in public policy making. Online groups that are creating governance structures to interact with government and public policy are coming from media activist groups like GetUp!, well outside government.

The PEARDROP DBE toolkit has similar objectives to GetUp!, but from the business end and with far more complexity. The digital ecosystem is separate from the overall economy but structurally related to it. GetUp! isnot structurally related to government but impacts on governance. Give Your Voice is an attempt to develop open source software to encourage citizen engagement but it does not create pressure on policy in the way that GetUp! does and nor is it designed for citizen engagement in the way that GetUp! is.

What E-governance needs is an approach like PEARDROP where there is a systematic building and experimentation of the "citizen ecosystem" with the government system. PEARDROP is by no means complete and it is still in its experimental stages. However, E-governance work could benefit from an understanding of DBE processes and the activities of groups like GetUp!

Conclusion
At present there is no real participative bridge between representative government and citizens except voting every 3 or 4 years for a new government, public consultation or media activism, like GetUp! A formal E-governance structure that is separate from government but structurally related to it would assist in the link between public administration and citizens. While there would be important issues of privacy in establishing profiles in such a structure or system, the legal issues, privacy issues and technology issues would all be a part of the toolkit and research, as they are in the DBE system.

If we combine the GetUp! model with a digital ecosystem approach then we can begin to see a solution to the problem of creating a nexus between citizens and government through digital means. The components of the model would include:

1. Provision of a diversity and surplus of information sources. A public digital ecosystem infrastructure, enabling a build up of citizen profiles and transactions on issues, would be made available with transparent search engines. Digital business ecosystems theorists argue that search engines like Google, privately owned, should be bypassed as their algorithms are not open to public scrutiny.

2. Shared collaborative access. Rules and structures based on collaborative access would be embedded into digital toolkits provided to citizens, as they are in DBE toolkits.

3. Participation in decision making. The Mr. Smith example provided by the DBE theorists might seem crude. Its point, though, is that Mr. Smith will in fact see an outcome in the real economy based on his activity in the digital representation of it. By extension, it would be possible to create a link between the aggregation in the ecosystem of concerns and issues raised by citizens and the actions and re-actions of government public administration officials or elected representatives. In the United States, for example, local government members can be forced to election if there is a sufficiently large petition on an issue. Such a model could be transposed to the citizen digital ecosystem, although legislative change would be required in those countries where there is no means of putting pressure on government representatives between formal political polls.

4. Develop skills necessary to participate in democratic decision-making. It is ironic that groups like GetUp! provide formal tools for learning about and participating in democratic action while education systems themselves often do not provide those same tools. The DBE and GetUp! provide formal training and rules for collaborative work or decision-making. Citizenship training could be part of a certification system within the citizen ecosystem, especially as aggregation of issues or concerns would require a mechanism to ensure the security and validity of individual votes within the system.

Governance is not government and governance, as the process of engagement with and influencing of public administration, has become more complex with the rise of the Internet. In this paper, the authors have argued that a participatory model of government has been under-represented. Modern governments have taken steps to enhance public consultation and, indeed, Gov2u.org is a good example of this. However, public consultation is not the same as participation in actual public policy making. The digital ecosystems approach is an example of the building of governance structures that encourage an environment of collaborative sharing of knowledge and direct intersection with the activities of the economy that it serves.

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