Communications Technology and Urban Governance Reform: Project Highlights

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ABSTRACT

In this paper, we describe highlights of a research project funded by the NSF Digital Government program. The study has examined the impacts of advanced communication technologies in the implementation of a system of neighborhood councils in Los Angeles. It employs social network analysis to chart the development of political networks engendered by the reform and the role of email in shaping these networks.

Categories and Subject Descriptors

K.4.1. [**Computers and Society**]: Public Policy Issues – *Use/abuse of Power;* H.4.3. [**Information Systems Applications**]: Communications Applications – *Electronic Mail;* H.1.1. [**General System Theory**]: Models and Principles – *Value of Information*

General Terms

Management, Design, Human Factors, Legal Aspects.

Keywords

Government, Citizen Participation, Evaluation.

1. INTRODUCTION

In June 1999, Los Angeles voters approved a new charter that created a city-wide neighborhood council system to engage community stakeholders in the policy-making process. Communications technology plays a central and formal role in the reform. One of the key innovations has been the creation of an "early notification system," (ENS) which provides email notifications of city policies likely to affect particular communities. In addition, neighborhood councils are required to establish systems for communication with local stakeholders, the City is required to implement a communication system linking neighborhood councils with one another and with City departments, and the City is required to provide communication

training and access to technology.

This project has employed the implementation of these Charter reforms as a natural experiment to illuminate the role of electronic communications in the operations of volunteer community associations and in government reforms intended to make City policy-making more transparent to the average citizen.

Within the field of digital government research this project has a number of distinguishing features. First, it focuses on the impacts of relatively simple technologies, principally email. Second, it focuses on local government which differs from higher levels of government in that the direct contacting of officials is a much more prominent form of citizen participation. Third, it examines citizen use of technology as well as government-led development of applications, and finally, it employs social network analysis (SNA) to evaluate the impact of technologies on the structure and effects of political networks engendered by governance reform.

2. PROJECT STRUCTURE

This project was embedded within a broader research program analyzing and evaluating multiple aspects of Los Angeles neighborhood councils, and as such, it has involved close working relationships with the City and other researchers. We had no involvement in the design of the ENS, and our evaluation of the system was conducted with an arms-length relationship to the city. Nevertheless, as the project progressed, we developed a collaborative relationship with policy-makers and community activists. In 2004, we widely distributed an evaluation of the progress of the system [4]. We have also participated in working groups organized to improve the design of the ENS, and have organized three conferences bringing together researchers, government managers and community activists. Finally, motivated by our evaluation of the ENS, we brought together the City officials and USC IT researchers to improve the system employing advanced human language technologies to filter city announcements automatically. We are currently seeking funding for this project.

3. ACCOMPLISHMENTS AND FINDINGS

The project had two main components: 1) an evaluation of the implementation of the electronic ENS and 2) a social network analysis of the online and offline political networks engendered by the creation of neighborhood councils.

3.1 ENS Evaluation

We evaluated the ENS not only as a technological innovation that affects citizens' capacity and motivation for participation but also as an alternative institutional means for involving citizens in policy making, thereby placing it in the broader historical perspective of reforms aimed to expand citizen participation [3]. The system that has been implemented to date is a listserv application that enabled individuals to subscribe to receive agendas for upcoming city meetings. This system falls far short of the ambitious goals laid out in the charter, but it has greatly expanded the number of individuals inside and outside of City government that receive the agendas prior to the meetings.

The instrumental impacts of technology in this reform process, however, have been overshadowed by its constitutive and unintended impacts. Buoyed by the late 1990s Internet craze, the goals of charter reform were highly influenced by techno-driven expectations that technology could dramatically open up the policy-making process. At the same time, the focus on technology also hampered reform efforts by distracting from the political and bureaucratic changes that were required to realize the benefits of information sharing technologies.

3.2 Social Network Analysis

Social Network Analysis has been widely applied to examine the impacts of electronic communications on formal organizations and social relations [1-2]. In contrast, this set of theories and empirical methods has hitherto not been applied to questions of democratic citizen participation and voluntary associations. Consequently, we began by elaborating a theoretical framework conceptualizing citizen participation as citizen penetration into policy making networks [5].

Social network data provide a powerful mechanism for describing how neighborhood councils create new political networks (see Figure 1). A sample internal network is depicted on the left, and the sociogram on the right shows how the neighborhood council at the center connects various community groups depicted on the bottom and city offices depicted on top.
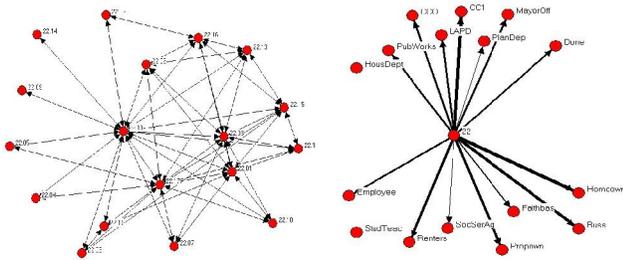

Figure 1: Sample Visualizations of Internal and External Neighborhood Council Networks

Analysis of the social network data demonstrate that email communications have important impacts on the structure of neighborhood councils, though these impacts are mediated by the particular usage patterns of members [6]. We find that neighborhood councils that rely more on email are more likely to have dense internal networks, which can support group cohesion and collective action. The effect of email on the centralization of associations, however, is more complicated. If group members have similar reliance on email, increased overall use of email leads to less centralized structures. In contrast, in groups with larger individual differences in email use, increased overall use of email in the group leads to increased centralization.

4. BROAD IMPACT

On a scholarly level this project has forged a new method for analyzing and evaluating the impact of governance reform and new technologies. This combination of theories and methods from SNA, social capital theories, and the literature on the social impacts of technology has inspired a larger number of USC scholars who are working together to expand this analysis to a broader array of community-based associations.

5. CONCLUSIONS

The NSF Digital Government program promotes important multidisciplinary research that combines social scientific evaluation of governance reform with an analysis of technological impacts. This project has helped identify the manner in which the dynamics of governance reform dictate technological development and the types of technologies that are useful for supporting reform. The main hurdle in this type of research has been the multiple manifestations of governmental reform. These applications of advanced communications technology have developed concurrently with changes in the political structure and with high turnover in elected offices due to term limits, thereby confounding the impact of technology on governance.

6. ACKNOWLEDGMENTS

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