When Opinion Leaders Blog: New forms of citizen interaction

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ABSTRACT

Web logs (i.e., blogs) provide enhanced opportunities to extend capabilities of traditional electronic mail and discussion lists, especially in the hands of opinion leaders; such tools offer greater social interaction and informal discussion, and opportunities for conversational content production. Because blogging tools are simple, available, and free, users can easily communicate with others in their social networks, their geographic communities and the interested public. Blogs represent self-organizing social systems that can help many persons to: 1) interact collaboratively, 2) learn from each other by exchanging ideas and information, and 3) solve collective problems. For opinion leaders – that small percentage of the population that is socially and politically active – blogs represent another channel to disseminate ideas and garner feedback from members of their social network. The present research offers findings from a random household survey of citizens of Blacksburg and Montgomery County, Virginia about citizens' interests and attitudes towards local government, discussion of political issues, and their Internet use. We find that opinion leaders who engage in some form of blogging (read or write) are more likely to be male, extroverted and educated than bloggers who are not politically active. They score higher than other bloggers on measures of offline and online political interests and activities, community collective efficacy, and the size and heterogeneity of their political discussion networks. As such, their use of blogs may serve as a growing new communication channel to exercise their informal influence.

Categories and Subject Descriptors

H.5.3 [**Information Interfaces And Presentation**]: Group and Organization interfaces - c*ollaborative computing*.

General Terms

Measurement, Human Factors, Theory.

Keywords

Social computing, Internet, computer mediated communication, empirical methods, survey research.

1. INTRODUCTION

For at least three decades, scholars and information technology experts have envisioned computer-based communication technologies as a basis for a vibrant, engaged, and informed democracy (Arterton, 1987; Horrigan, 2001; Rogers, 1986; Schuler, 1996). Although many of these utopian hopes have not been realized, computer networking has fostered greater participation in democratic political life in the United States (Barber, 1984; Coleman and Gotz, 2002; Kavanaugh et al., 2005a, 2005b; Rainie, 2005; Schmitz, et al., 1995). Electronic mailing lists and politically oriented web-based resources grew rapidly in the late 1990's. Much of this information and communication technology (ICT) enhanced participation has: 1) increased awareness about issues and problems, and 2) increased capabilities for coordination, communication and outreach for political actors. Recent large-scale examples include the 1999 coordination of demonstrations against the World Trade Organization meeting in Seattle that were greatly facilitated by online communication. During the 2004 US presidential campaign, political groups coordinated such activities as leafleting, neighborhood canvassing, and fundraising over the Internet. Thus, when campaign volunteers from Southwest Virginia sought to help distribute surplus campaign materials in Ohio, they went online to find their counterparts, establish contact with them, and coordinate rendezvous points.

These technologies (ICT) have a long history of utilization in local political activities dating from early campaigns to change how a city would treat its homeless waged on Santa Monica's Public Electronic Network (Schmitz et al., 1995) or the establishment of neighborhood coalitions via the Seattle Community Network (Schuler, 1996). When a group of citizens in Blacksburg, Virginia documented controversial procedures surrounding a proposed local sewer development, they used email and listservs, along with face-to-face campaigning to ensure a record turnout of citizens that elected sympathetic candidates as new Town Council members in a landslide victory (Kavanaugh et al., 2005b).

In short, the enhanced capabilities of ICT to reach and mobilize more people, more quickly and to garner greater resources has helped political actors to raise awareness, educate citizens, mobilize supporters, and coordinate collective responses. Much of the ICT use for political awareness and mobilization has been dominated by what are commonly known as 'opinion leaders' or 'influentials.' Opinion leaders are characterized by higher social status (even within lower social strata) and gregariousness (talkative, extroverted, and affiliated with more clubs and local groups). They are also more exposed to and responsive to new information and ideas, traditionally through various mass communication media (Katz and Lazarsfeld, 1955; Keller and Berry, 2003, among others). Katz and Lazarsfeld's (1955) 'two-step' flow of communication model has been well established through numerous subsequent studies: that is, ideas often flow from radio and print to opinion leaders and from them to the less active segments of the population. The use of new communication technologies, such as blogs, by opinion leaders raises such questions as: To what extent do opinion leaders use blogging for political discussion, opinion sharing, and information exchange? Is there evidence that political opinion leaders (who by definition have large discussion networks, i.e., many friends, family and acquaintances with whom they discuss politics) are likely to use blogs to supplement face-to-face discussions? There is the potentiality at least that as a result of blogging by opinion leaders, individuals oriented to these influentials may become drawn into a more deliberative type of participation based on increased opportunities for informal discussion and exchange of ideas.

2. PRIOR RESEARCH

We have been investigating citizen participation in governance at the local level in order to understand the extent to which existing information and communication technology (ICT) satisfies community communication and information needs and interests during a program of research that has extended for more than five years and has included many researchers with multi-disciplinary interests. At the local level we have asked (and answered) such questions as: Who is politically active? What is the nature of their political involvement? How do they use ICT?

The overall goal of our research program—and much other the research about information and communication technology and political participation—is to study the effects of ICT use upon the level and type of participation by different citizens. We are especially interested in the role of opinion leaders and their use of new information and communication technology.

2.1 Opinion Leadership

Opinion leadership, summarized by Rogers and Shoemaker (1971) is "the degree to which an individual is able to informally influence other individuals' attitudes or overt behavior in a desired way with relative frequency" (p. 35). The influence is informal, often by word of mouth, at the local level with ideas and information spreading throughout an influential's social circle (Keller and Berry, 2003). Further, opinion leadership is earned and maintained by the individual's competence, social accessibility, and conformity to agreed upon norms. Opinion leadership theory argues that 'influentials' as they are also called, exist at all social strata and can vary somewhat by subject area (politics, technology, consumerism) although they are generally attuned to new ideas and forward thinking across the board. Extensive longitudinal research by Roper (since the early 1970's) shows that influential Americans have consistently been politically aware and socially active citizens (Keller and Berry, 2003). To qualify as an influential, a person had to have done three or more of a list of social or political activities in the past year, such as: written or called any politician at the state, local or national level; attended a public meeting on town or school affairs; held or run for political office; served on a committee for some local organization; served as an officer for some club or organization; written a letter to the editor of a newspaper or magazine (or called a live radio or TV show to express an opinion); signed a petition; worked for a political party; made a speech; written an article for a magazine or newspaper; or been an active member of any group that tries to influence public policy or government (Keller and Berry, 2003, p. 19).

Opinion leaders make up only about 10-15 percent of the total US population and they are that same group that is comprised of the politically active citizens (Verba and Nie, 1972; Milbrath and Goel, 1977; Dahl, 1991; Norris, 2001; among others). Thirty years of Roper research shows that influentials were among the early adopters of information technology, including video recorders and home computers. Their early use of applications like word-processing led them see the benefits of personal computing ahead of the general population (Keller and Berry, 2003). Influentials have been using the Internet, including email, bulletin board systems, and web browsers from the outset to stay informed and involved in political issues that interest them at local, national and international levels. Since people turn to them for advice and opinions, influentials' use of online information resources helped them spread outside ideas throughout the general population in the course of face-to-face political discussions and computer mediated communication opportunities (e.g., email and listservs).

The use of traditional ICT (such as, email and listservs) by political activists (most of which are opinion leaders) to help inform, involve, and mobilize citizens for collective action are well documented (Dahlberg, 2001; Norris, 2001; Horrigan, et al., 2004, among many others).[ii] National survey research and comprehensive case studies have also demonstrated the effectiveness of ICT to increase civic awareness and participation among interested citizens.

The 'word of mouth' and conversational style of blogs makes them particularly well suited to the often informal style of influence used by opinion leaders. The design and usability of blogs harken back to some of the earliest forms of Internet-based social applications, such as bulletin board systems, where interaction and exchange of ideas were more prominent online than information browsing. The role that influentials play in disseminating and discussing ideas most often informally and by simple 'word of mouth' (and, more recently, augmented by email and listserv) is essential to deliberative democracy.

2.2 Deliberative Democracy

Deliberative democracy is a political system based on the open public discussion and consideration of political ideas and problems with a view to collective opinion formation, decision-making and response (Barber, 1984; Fishkin, 1991, among others). Underlying institutional procedures, such as rule of majority, is a culture of political discussion and voluntary

participation. In the view of Kim, Wyatt and Katz (1999) citizens' free discussion of public issues is the soul of democracy. Their interest is not so much with formal discussions with specific agendas and purposes, but rather the casual, off-hand and spontaneous conversations that spring up routinely throughout the average person's daily life. Their conversation may generally occur in the private sphere (with family members and friends), but its substance (e.g., information and ideas) comes from outside (e.g., media and opinion leaders). While not everyone agrees that casual political conversation is valuable to democracy (see Schudson, 1992, 1997, for example), who argues that goal-oriented discussion that is guided by rules is more fruitful and valuable for democratic talk.

Several innovative projects have rule-based formal public forums online for citizens to discuss important issues and to deliberate on a variety of national, global and local policies (e.g., Minnesota E-Democracy, UK E-Democracy, and many other specialized discussion groups). These online deliberation forums provide valuable central sites for public participation in policy debate and decision-making (Gastil and Levine, 2005; Hill and Hughes, 1998; Katz and Rice, 2002; Kirn, 2002; Price, 2005). Deliberative polling offers effective experiments to understand the impacts of information and deliberation upon citizens' opinion formation and consensus building (Fishkin, 1991).

A critical limitation of centralized sites/forums to discuss issues is that they tend to attract the "usual" activists who are presently comfortable with computer technology. Existent centralized sites are difficult to scale up and thus reach persons beyond a core group of activists. Presently, forum leaders expend time and effort to attract and recruit participants to their sites since most potential participants are not highly motivated to seek these special locations where they might air their views and concerns. Yet, citizens who may be 'passive supporters' are not without opinions and they may well express their political views to their network of friends, family and acquaintances (both offline and online). Often 'passive supporters' express their opinions online via email with friends and family or they may use mailing lists to which they are subscribed.

Early adopters are beginning to use some of the newer technologies, such as blogs and wikis (perhaps casually, yet importantly) to express their personal and political views. As we try to show here from our research findings, among these early adopters are opinion leaders. Blogs are easy to set up and use. They are free and widely available through several services such as livejournal.com, xanga.com, and blogspot.com. Low barriers to entry and easy content authoring have spurred their recent rapid growth. National statistics on blogging (Rainie, 2005) indicate that by the end of 2004, about 27% of Internet users reported reading blogs, while 7% of Internet users had reported creating a blog.

Motivations for blogging range from the intimately personal to the globally political (Nardi et al., 2004; Rainie, 2005). Nardi's ethnographic study of "ordinary" bloggers, identified five major motivations: 1) documenting one's life, 2) providing commentary and opinions, 3) expressing deeply felt emotions, 4) articulating ideas through writing, and 5) forming and maintaining community forums. She also found that the motivations for blogging may overlap. For example, one blog was for a class whose professor noted: "We'll try to take advantage of the general nature of Weblogs as 'public journals' in using them for personal reflection in the context of a learning community, on issues that arise in the course, both rhetorical and content-related." (Nardi, 2004, p. 45) In Nardi's view, this professor hoped to "facilitate the building of the learning community by getting students in conversation with each other electronically." (p. 45). Community forums for geographic locales such as Burlingame, California (http://www.burlingame.org) seek similar self-organizing social systems (Wiley and Edwards, 2003) in which people discuss local problems with each other and help to solve them, collectively.

2.3 Blogs as Self-Organizing Social Systems

Blogging software distributes responsibility for content creation, commentary, and quality control across a community of users (i.e., writers, commentators, and readers). As such, blogs offer potential frameworks for effective deliberation and thus, provide users with critical tools needed for self-organization. Self-organizational models for human behavior help us to understand urban planning (Jacobs, 1961), economics (Krugman, 1996), organizational structures (Wheatley, 1992), and computer supported cooperative work (Wulf, 1999). For example, Wulf investigated ways that 'groupware' systems are used to support self-organization.

When a critical mass (Markus, 1987) of politically active, Internet users adopt such innovative technologies as web logs for political discussion, they create online self-organizing systems for democratic purposes that may become self-sustaining. In this way "outsiders" are no longer required to recruit people to join a centralized formal on-line discussion. Blogging provides needed tools for people who are presently discussing civic life (among other things) that can help communities of users organize and shape discussions among themselves providing interest is maintained and subjects remain timely.

2.4 The Blacksburg Electronic Village

Blacksburg and Montgomery County in southwest Virginia offer a rich opportunity to investigate Internet use. Blacksburg hosts the land grant state university of Virginia Polytechnic Institute & State University (Virginia Tech) and is home for the mature, well-established community computer network known as the Blacksburg Electronic Village (BEV). Although its name implies otherwise, the BEV does serve the County in which Blacksburg is located and extends services to a wider region beyond the local planning district. The population of Blacksburg (estimated 38,000 in 2005) is largely affiliated with Virginia Tech as faculty, staff, or students. Nearby Christiansburg, with a population of 22,000, houses a mixture of Virginia Tech affiliates and working class households.

Virginia Tech, in partnership with the Town of Blacksburg and the local telephone company (then Bell Atlantic, now Verizon), launched the BEV in 1993. The university provided Internet access through its modem pool to residents and supported a small staff whose goal was to develop web-based local content and build a critical mass of users through user training and support. By 1995, random sample surveys of Blacksburg households indicated that 62% of the respondents were using the Internet (Kavanaugh, et al., 2000). In addition to residential users, the town government, county government, county public schools, public health offices, and county public libraries also maintained content-rich web sites (hosted on BEV servers); these agents also intensively trained their personnel to use this unique community

network. The high levels of institutional and residential users provided an attractive market for private Internet Service Providers who then offered dial-up and high speed connectivity (DSL, Ethernet in apartments, and eventually cable modem) to area residents.

Random sample household surveys since 1995 have shown a steady rise in the number of Blacksburg respondents reporting they use the Internet through 2001, when at 89%, penetration reached a saturation point. That is, everyone who wanted to be online was, and those who were not online had either chosen not to use the Internet or were using email and web resources through surrogates (often family members or friends). Unlike Blacksburg residents, the number of people in surrounding Montgomery County who reported they used the Internet use has steadily risen (from about 20% in 1999 to 68% in 2005). For user populations in both locations (Blacksburg and Montgomery County) the *amount* of daily usage and *types* of usage have changed over time, particularly as more choices in broadband technologies (e.g., cable modem, satellite connectivity) and new developments in software programs and applications have been offered. Most local residents and organizations use the Internet routinely; most agents also *expect* that almost everyone else can access information and communicate with each other online.

3. RESEARCH METHODOLOGY

Through in depth interviews, archival records and web searches, we have been investigating current information and communication technology use and practices among local citizens, community groups and government representatives. We also investigated ICT use among other communities in the United States, particularly where we identified active online use of community discussion forums, blogs and/or wikis (Kavanaugh, et al., 2005c). We designed and administered a random sample household survey to assess political participation and Internet use in Blacksburg and Montgomery County, Virginia. We were particularly interested in those respondents who had heard of blogs, and were reading, posting comments to, or writing blogs. We report here highlights of the findings of the present research.

3.1 Household Survey

We developed the survey instrument by selecting questions from our prior BEV research, the HomeNet study (Kraut, et al., 1996, 2002) and validated questions regarding political efficacy, participation and attitudes that have been used in many prior studies (e.g., Dahl, 1991; Michaelson, 2000; Miller, et al., 1980; Verba and Nie, 1972). We contracted with Virginia Tech's Center for Survey Research to 1) transform the questionnaire into a telephone interview format, and 2) to conduct interviews by telephone with a sample of 1200 households. Our sample consisted of households in Montgomery County, including the two large towns of Blacksburg and Christiansburg that lie within the county limits. We had purchased the sample from Survey Sample, Incorporated who generated our random sample from listed and unlisted telephone numbers available to Montgomery County, Virginia residents. After eliminating all ineligible records (e.g., outside Montgomery County, hearing disabilities, etc.), the number of eligible sample members was 1,795. A total of 717 interviews (response rate of 40%) were completed.

3.2 Survey questions and constructs

All constructs for this project were represented by variables that were subjected to reliability analysis. The present survey questions were selected so that the constructs were as similar as possible to those in our prior study about community computing in Blacksburg and Montgomery County: Experiences of People, Internet and Community (EPIC) reported elsewhere (Carroll and Reese, 2003; Kavanaugh, et al., 2003; Kavanaugh, et al., 2005a; Carroll, et al., 2005). Primary constructs included the following:

Offline Political and Civic Interests How frequently in the last six months the respondent read local, national and global news in the paper; attended a local public or political talk or meeting; wrote or called a local government official; attended a religious service; did volunteer work);

Online Political and Civic Interests How frequently in last six months the respondent used the Internet for the following: to work for a political party or candidate, to try to influence a government policy or affect a politician's point of view; to send email to a local government official; to get local, national or global news; to read, comment on or write a blog; to post factual information for citizens; to express opinions in forums or group discussions;

Internet Helpful for Involvement Level of agreement with 1) The Internet has helped me feel more connected with people like myself in the local area; 2) The Internet has helped me feel more connected with a diversity of people in the local area; and 3) The Internet has helped me become more involved in local issues that interest me.

Political efficacy Level of agreement with the following: 1) Sometimes local politics and government seem so complicated that persons like me can't truly understand what's going on, 2) I don't think local public officials care much what people like me think, and 3) There are plenty of ways for people like me to have a say in what our local government does.

Community Collective Efficacy Level of agreement with the statement "I am convinced that we can improve the quality of life in the local community, even when resources are limited."

Trust Composite variable comprised of the following: To what extent do you think most people in the local area ca be trusted? And To what extent do you think most people in the local area are inclined to help others?

Extroversion Level of agreement with the statements 1) "Generally speaking, I am outgoing and sociable; and 2) "I am talkative."

Political Talk Frequency measures on the following: In the last six moths (how frequently) have you 1) talked to family members about local issues or concerns; 2) talked to family members about national or global issues; 3) talked to people outside your family about local issues; and 4) talked to people outside your family about national or global issues.

Our political efficacy construct is based on questions used in prior research (Michaelson, 2000; Miller, et al., 1980; Verba and Nie, 1972, and others), where political efficacy is defined as the belief that individual political action does have, or can have, an impact upon the political process. Since this definition does not include the notion of obstacles that must be overcome, as Bandura's (1997) concept of efficacy requires, it comes closer perhaps to a sense of political empowerment than efficacy in Bandura's sense.

Our construct combines both internal and external political efficacy. Internal efficacy "indicates individuals' self-perceptions that they are capable of understanding politics and competent enough to participate in political acts such as voting" (Miller et al., 1980, p. 253). External efficacy "measures expressed beliefs about political institutions. The lack of external efficacy … indicates the belief that the public cannot influence political outcomes because government leaders and institutions are unresponsive."

Our question we name 'community collective efficacy' is taken from a larger construct we developed extensively in the earlier EPIC research referred to as collective efficacy (see Carroll and Reese, 2003). We mean specifically a feeling of efficacy about the capacities of one's community to achieve goals in the face of difficulties or limitations.

Space does not permit us to provide full details on all these constructs; we have posted more information (name, label, range and average values, number of valid cases, component variables, their correspondent survey questions, and value labels for each measurement scale) at http://java.cs.vt.edu/public/projects/digitalgov/data.

We created a *Political Discussion Network* construct (α = .75) that included the *Political Talk* construct described above and seven additional variables: 1) number of people outside family with whom respondents talk about an issue they consider to be the most important facing the local area; 2) likelihood of attending meetings on this issue, 3) likelihood of speaking at a public forum on this issue, 4) likelihood of expressing a different opinion at a public forum on this issue; and, in the last six months, how frequently the respondent has: 1) attended a local political talk or meeting, 2) attended a public meeting and 3 discussed politics. The *Political Discussion Network* construct is composed of variables' z-scores since the different questions used different scale metrics.

Primary questions referred to family, friends, or acquaintances with whom respondents discussed politics (local, national or global politics). We included a question in this construct respondents' likelihood of attending a public forum on a specific local issue that they identified as the most important issue facing the community. We also asked about the likelihood of their expressing opinions about this issue during a public forum. Additional measures captured the size of respondents' political discussion networks by asking about how many people outside their immediate family had they discussed their most important local issue (the issue they had earlier identified).

This paper analyzes differences between bloggers and respondents who had never heard of blogs, and between politically active 'bloggers' and politically inactive 'bloggers'. We calculated the composite variable "blogger" as the sum of four variables: 1) heard of blogs, 2) read blogs, 3) posted comments to blogs, and 4) wrote blogs. The variable 'heard of blogs' had two response categories: yes=1, no=0. The remaining three questions used a frequency scale ranging from 1=never to 6= several times a day. We collapsed these six response categories into three: 0=never, 1= occasional, and 2= frequent. The sum of scores across these four questions, using recoded response categories yielded a scale that ranged from 0 to 7. The sub set of the sample (319 respondents) who had at least heard of blogs is a basis of the blogger analyses we describe below.

Neither the level of blogging experience (i.e., heard of blogs, read, post and/or write them), nor the frequency of blog activity (e.g., several times a day) discriminated between respondents who are interested in more political versus more personal types of content. Therefore, we subdivided 319 respondents who had at least heard of blogs (what we call the 'blogger' population) into those who had larger versus smaller political discussion networks. Using their scores on the Political Discussion Network construct, we discriminated between two groups: political bloggers (N=93) and personal bloggers (N=226) based on a cut-off point at the75th percentile (using a score of 0.39 or above on the 'political discussion network' measure). For the remainder of this paper we refer to bloggers with larger political discussion networks simply as political bloggers, and those with smaller or no political discussion network as personal bloggers.

We tested bivariate correlations to explore differences between political and personal bloggers and we used *t* tests to examine differences more rigorously. We also used *t* tests with primary survey constructs and some demographic variables to identify significant differences between light versus heavy bloggers (i.e., based on frequency of blogging activity). The characteristics, interests, and activities of people who are politically active and who are also somewhat familiar with blogs offers unique insights about how this new information technology presently supports and/or enhances individuals' civic engagement.

4. RESULTS

Completed surveys were geographically representative compared to our original sample; that is their distribution matched what one would expect from Blacksburg, Christiansburg, and the remaining portions of Montgomery County. Almost eighty percent (78%) of the total respondents reported they use the Internet. Internet users tended to have higher levels of education, household income, and household size (more children living at home). Internet users were more likely to be affiliated with more formal and informal groups than non-Internet users (Table 1).

Table 1. Internet Users: Demographics and Attributes

Variable Names	Mean (SD)	Valid N
Age	44.4 (15.37)	552
Location	1.86 (0.77)	556
Education	4 (1.4)	553
Household income	1.58 (0.49)	518
Children at home	0.43 (0.49)	495
Formal groups	1.15 (1.26)	554
Informal groups	0.70 (1.02)	553

Correlations were calculated between responses to the question "Do you use the Internet from any location" and selected demographic characteristics to determine if that Internet use was associated with gender, age, estimated household income, home ownership, household size, education, marital status, living with children, extroversion, number of formal and informal group affiliations, and a one-item measure of community collective efficacy. Table 2 presents statistically significant (Kendall-tau) correlation coefficients (we do not report the non-significant findings).

Table 2. Correlates of Internet Use Variables

Variable Name	Correlations	Valid N
Age	-.323**	709
Location [iiia]	-.175**	716
Household income[b]	.298**	661
Education[c]	.418**	712
Marital status[d]	-.209**	713
Children at home[e]	.111**	602
Household size	.202**	715
Formal group affiliations	.166**	713
Informal group affiliations	.199**	703

* $p<.05$, ** $p<.01$

We examined relationships between the primary survey constructs and demographic variables (e.g., age, residential location, household income, home-ownership, number of people living at home, level of formal education, marital status, households with children under the age of 18, and extroversion). We also tested for relationships with variables that capture our respondents' identification of and reactions to important local issues: whether the respondent identified "their" most important local issue, how many persons outside of family members with whom s/he talked about the most important local issue, whether these people shared his/her point of view, likelihood of attending public forum on the issue of interest, likelihood of speaking at the public forum, and preferred type of news source. One effect of the relatively large sample size was that many of the relationships were statistically significant. Table 3 reports constructs that were moderately correlated (r>0.20, Pearson correlation coefficients) with the responses to questions that address "the most important issue" given by respondents.

Table 3. 'Most Important Issue Facing Local Area'

Variables: Most Important Issue	Constructs	Correlation (N)
Important local issue provided (or not)	Offline political interest	0.21** (618)
	Offline civic interest	0.21** (618)
	Political talk	0.22** (618)
Likely to attend public forum on important issue	Offline political interest	0.23** (512)
	Political talk	0.24** (512)
	Offline political activities	0.31** (512)
Likely to speak at public forum on the important issue	Extroversion	0.26** (420)

* $p<.05$, ** $p<.01$

Among Internet users, 44.5% (319 people) reported they had heard of blogs. Among this subset of the population who had heard of blogs, more than half (57%) had never read blogs. Of the remaining 43% who read blogs, the largest proportion (23.3%) rarely read them (about once a month or less). Only about one-fifth (19.8%) reported reading blogs once a week or more.

An even smaller proportion (18.9%) of those people who had heard of blogs reported ever posting comments to them. Further, most persons who had posted comments on blogs reported posting infrequently (less than once a month). Only 7.2% of those who had heard of blogs had posted comments about once a week. Not surprisingly, authors of blogs were the most rare. Only 7% of Internet users in our study were blog writers (a finding similar to national statistics from Horrigan, et al., 2005, gathered at the end of 2004). Correlation findings suggest that respondents who have at least heard of blogs (but may also read, post and/or write blogs) use the Internet for different purposes than do those respondents who have not yet heard of blogs.

Specifically, the more experience people had with blogs, the more often they used the Internet to: 1) get national and global news, 2) look for information on the BEV web site, 3) work for a political party, 4) influence policy, 5) post information for other citizens, and 6) express their opinion in an online forum. Respondents with minimal blog use but who had at least heard of blogs used the Internet more frequently than Internet users who had not heard of blogs to: 1) get national and global news, 2) look for information on the BEV web site, 3) post information online for other citizens, 4) express their opinions in online forums, and 5) use the Internet to influence policy. See Table 4.

Table 4. 'Heard of blogs' and Frequency of Internet Use

Variable Name Frequency of Internet use to:	Pearson Correlations	Valid N
Get national/global news	0.30**	555
Get info from BEV website	0.08*	552
Work for political party	0.12**	555
Post information for citizens	0.13**	554
Express opinion in online forum	0.19**	555
Influence policy	0.15**	555

* $p<.05$, ** $p<.01$

Among Internet users, we scored each respondent according to their level of knowledge and experience with blogging. Scores ranged from zero, for someone who had never heard of blogs, to a high of seven for someone who writes a blog about once a week or more. A higher score also included a measure that captured reading and/or commenting on blogs. Results of *t* tests comparing respondents with different levels of blogging experience showed that persons with more experience with blogs also scored higher on measures of Internet experience and with the amount of Internet use on a typical day (Table 5).

Table 5. Differences Among Respondents by Blogging Awareness/Experience

Variable Labels	Means		*t* test (*df*)
	Not Aware	Aware User	
Number of years using Internet	7.9	9.4	-4.50** (548)
Hours/day spent on Internet	1.9	2.6	-3.87** (539.25)

* $p<.05$, ** $p<.01$

Respondents who heard of/read/posted to and/or wrote blogs were more interested and active in politics and civic life, both online and offline, and they discussed politics with more people than respondents who had never heard of blogs. See Table 6.

Table 6. Differences Among Respondents by Blogging Awareness/Experience

Variable Labels	Means		*t* test (*df*)
	Not Aware	Aware User	
Offline political	1.33	1.45	-2.55** (548.89)
Online political	1.12	1.24	-3.65** (552.26)
Online civic	1.68	1.82	-2.73** (553)
Political talk	3.61	3.93	-2.98** (468.9)
Informal groups	0.59	0.78	-2.19* (549)

* $p<.05$, ** $p<.01$

One important finding was that people with more experience with blogs (readers, commenters, writers) were more likely to belong to a greater number of *informal* groups. When we subdivided people who had at least heard of blogs into those who were more politically involved and those who were less politically involved, we found that bloggers who were politically involved (i.e., opinion leaders) belonged to more *formal* groups.

When considered as a category of persons, politically active citizens who engage in some form of blogging were significantly different from 'personal' or politically inactive bloggers on important measures of demographics, attitudes, interests, activities, and political discussion networks, as shown in Tables 7, 8, and 9. (See also Notes for Tables 7-9).[iv] Politically active citizens who use blogs tended to be slightly older (average age 47), male, more extroverted, and better educated (average education=some graduate school) as shown in Table 7. As a category, therefore, we consider 'politically active' bloggers to be opinion leaders who engage in some form of blogging (even though it may just be reading them).

Table 7: Bloggers: Demographics and Attributes

Variable Labels	Means		*t* test (*df*)
	Personal	Political	
Age	43.34	47.01	-1.98* (191.44)
Extroversion	3.08	3.40	-3.73** (223.12)
Estimated household income	1.57	1.71	-2.45* (166.2)
Home ownership	0.70	0.82	-2.27* (200.92)
Number of people living at home	2.52	2.86	-2.40* (317)
Number of formal group affiliations	0.92	1.71	-4.99** (137.36)

*$p<.05$ ** $p<.01$

Political bloggers also scored higher than personal bloggers on measures of offline and online political interests and activities, community collective efficacy, and on the size and heterogeneity of their political discussion networks. See Table 8 (the number of political bloggers ranged from 84 to 93).

Table 8: Political vs Personal Bloggers Attitudes/Interests

Variable Labels	Means		*t* test (*df*)
	Personal	Political	
Community collective efficacy	3.33	3.51	-2.21* (312)
Offline political interest	1.27	1.89	-7.40** (120.37)
Offline civic interest	3.14	3.66	-4.82** (317)
Political talk	3.46	5.07	-16.22** (233.04)
Offline political activities	1.27	1.77	-8.703** (122.50)
Online political activities	1.12	1.54	-6.542** (107.31)
Online civic activities	1.74	2.00	-3.88** (317)
Size of political discussion network	5.78	14.50	-4.13** (90.58)
Other people have same knowledge	0.92	0.90	2.16* (125.37)

* $p<.05$, ** $p<.01$

Political bloggers were also more likely than personal bloggers to have reported a specific issue when asked 'What do you feel is the most important issue facing the local area?' and to report that they would attend a public meeting on that issue. They were considerably more likely to speak at such a forum and to express an opinion that is different from others at the forum. Finally, political bloggers were more likely to report the Internet helped them to become more involved in local issues. See Table 9.

Table 9: Political vs Personal Bloggers on Important Issue

Variable Labels	Mean		*t* test (*df*)
	Personal	Political	
Important issue reported or not	0.84	0.94	-2.83** (256.12)
Likely to attend public forum on issue	2.62	3.40	-6.82** (219.41)
Likely to speak at public forum	2.75	3.41	-5.45** (206.87)
Likely to express different opinion	3.22	3.62	-4.22** (181.12)
Internet helpful for involvement	2.29	2.54	-2.40* (316)

* $p<.05$, ** $p<.01$

Finally, bloggers who were politically active reported significantly more political discussions in the local groups with which they are involved than did bloggers who were not politically active. That is, respondents who were politically active and more engaged in blogging (whether reading, commenting on or writing) reported they were likely to have formal as well as informal political discussions with other members of the local clubs, organizations and other voluntary associations with which they were affiliated. This provides further evidence of the opportunities for political discussion and influence engaged in by opinion leaders with members of their social network.

5. Discussion

While our research was conducted using households in Blacksburg and Montgomery County, Virginia, this ICT rich region may indicate trends that may also be observed elsewhere. Clearly, our respondents' political attitudes, efficacy and interests shapes their uses of information and communication technology, particularly such collaborative tools as blogs. The present findings suggest that people with higher levels of political participation use information technology in a variety of ways, including many traditional ways (e.g., email government officials, staying informed). Even so, one of the more innovative forms of Internet use, blogging, by politically active respondents may foster more political engagement and deliberation because they act as opinion leaders influencing members of their social network.

Respondents who are more frequent blog readers, commentators and/or writers tend to be younger, male, and affiliated with more informal groups than those who have never heard of blogs. Respondents who *are politically active* and who also read, comment on and/or write blogs are slightly older (average age 47), more extroverted, and are affiliated with more local formal groups than those who *are not politically active* and read, comment on and/or write blogs. 'Political' bloggers have more income and larger households than do 'personal' bloggers; 'political' bloggers also have a higher sense of community collective efficacy (the belief that a community can solve collective problems despite obstacles) than do personal bloggers. Finally, political bloggers are more likely than personal bloggers to report a problem in the local area that they consider to be important. They are more likely to: 1) have talked with people about the issue, 2) attend a public forum about it, 3) speak at such a forum, and 4) express an opinion that differs from others at a public forum on the issue. They discuss the issue with significantly more people and with people who have different levels of knowledge on issues (probably less) than themselves.

These findings reinforce theoretical expectations that these politically and socially active people are opinion leaders and that they are beginning to use innovative information and communication tools to support their political interests and influence among their social circles. The highly social nature of these persons' political behavior (i.e., more discussion with larger social networks) could easily migrate into the realm of blogging, given the informal, 'word of mouth' and conversational nature of blogs. Presently, we lack specific questions in our survey regarding the type of blogs respondents are reading, commenting on, or writing. We are pursuing this line of questioning in a series of focus group interviews with our respondents in our future research.

We expect that tools such as blogs and wikis, because they allow people to organize and collaborate among themselves, will foster citizen-to-citizen discussion and deliberation, led by influentials. The conversational style of blogs, combined with their easy accessibility, suggests that Internet users will continue to adopt them at increasing rates. It is also likely that blogs and wikis will increasingly be used to express citizens' views and strengthen connections with existent social networks. Given greater ease and possibilities for informal exchange of information and ideas among friends, family members, and other citizens—we offer preliminary evidence at least that these new self-organizing, collaborative groups may well help to enhance deliberative and engaged political discourse within democratic societies.

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[ii] See also: The Berkman Center for Internet & Society (http://cyber.law.harvard.edu/projects/deliberation); The Civic Exchange Strong Democracy in Cyberspace (http://webserver.law.yale.edu/infosociety/civicexchange.html); Deliberative Democracy Consortium (http://deliberative-democracy.net); National Science Foundation Digital Government Project (http://digitalgovernment.org); National Coalition for Deliberative Democracy (http://www.ncdd.org); Minnesota E-Democracy (http://www.e-democracy.org); among others.

[iii] Notes on Response Codes for Table 1 & Table 2:
[a]1=Blacksburg, 2=Christiansburg, 3= Montgomery.
[b] 1= less than $ 50,000, 2= $ 50,000 or more.
[c] 1= eighth grade or less, 2= some high school, 3= high school grad GED, 4= some college/ certificate program, 5= graduated from college or certificate program, 6= some graduate level work, 7=completed graduate school/ professional school.
[d] 1= married, 2=single, 3=divorced, 4=separated, 5=widowed, 6= living with partner.
[e] 1= some of the HH members are younger than 18 years, 0= none of the HH members are younger than 18 years.

[iv] Notes for Tables 7-9:
Number of respondents who never heard of blogs ranged from 233 to 236.
Number of respondents who heard of blogs ranged from.317 to 319.
Degrees of freedom (*df*) with decimal numbers are from equal variance NOT assumed t tests. *df* with whole numbers are from equal variance assumed *t* tests.
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