5-16-2008

The Internet Megascope The Web's Effect on Political Knowledge and Electoral Participation in U.S. Presidential Elections

Hannes Ralph Richter
University of New Orleans

The Internet *Megascope*
The Web's Effect on Political Knowledge and Electoral Participation in U.S. Presidential Elections

A Dissertation

Submitted to the Graduate Faculty of the
University of New Orleans
in partial fulfillment of the
requirements for the degree of

Doctor of Philosophy
in
Political Science

By

Hannes Richter

M.A. University of New Orleans, 2001

May 2008

Table of Contents

List of Tables

List of Figures

Chapter 1

Political scientists and other observers have long lamented the low level of political knowledge in the American electorate. Deemed vital to the proper functioning of a democracy, many believe Americans simply do not know enough about politics and current affairs to reach an informed decision on election day. Even with levels of formal schooling rising for the past twenty years, levels of political knowledge failed to increase. The advent of the Internet led many to believe that the great equalizer had arrived: Virtually infinite information on every issue at every connected citizen's fingertips. This was thought to be the beginning of a new era; an era where citizens could gather a maximum of information at a minimum of cost and with minimal effort; a never-before seen information paradise was about to unfold, and as a result, citizens would become more informed, and the overall democratic process would be the ultimate beneficiary (Rheingold 1993). I will investigate if the Internet as a tool of political communication as part of its alleged promise will increase levels of political knowledge across the electorate and who benefits from it most.

Many political analysts have predicted a significant change in political communication due to the rapid emergence of the Internet. (Tedesco 2004). As the Internet, and more specifically two of its major applications, the World Wide Web and e-mail, have become an integral part of the everyday life of an increasing number of citizens, researchers expect it powerfully to alter the way we communicate political information, and how we participate in the political process (Tedesco 2004, Emmer and Vowe 2003). This research aims to contribute to the existing body of literature by further examining the effect of the Internet on a vital determinant of the democratic process: political knowledge and its effect on political participation.

The Internet today is an integral part of U.S. political campaigns. With the campaign for the 2008 presidential nominations under way, the omnipresent Internet makes headlines of its own (Cohn 2007, Feldman 2007, Vargas 2007). For the first time in history citizens are able to submit their own questions for Democratic and Republican debates via *YouTube*, the web's most popular video-sharing platform, to have them aired and answered live on network television. This marks the latest milestone in the Internet's integration into the mainstream of political information. The debate over the utility of this novum, however, has already begun: "Will they rock the vote, or is this just Web 2.0 window dressing?" asks *Newsweek's* Andrew Romano in the light of *YouTube's* announcement (Romano 2007, p. 37). I would like to take Romano's question from this specific context and pose it in a more general fashion: With the Internet as an everyday reality of a majority of Americans, does it in fact alter political communication in the U.S.? More specifically, do those who have access to the Internet tend to be better informed about politics, net of other factors? Furthermore, are citizens then translating any gains in political knowledge into political action? In the Internet age, do the web's offerings lead to an increase a person's likelihood to vote?

The Internet has been developing and growing with lightning speed, but not long ago the picture was different. The Internet's growth within the political arena was largely unrecognized until after the 1992 presidential elections, except for those who began to use it to connect political campaign strategists with operatives via the use of e-mail (Whillock 1997). It was not until the 1996 presidential election that political parties and candidates started to acknowledge the existence of a unique new means of communication. In that year more or less every candidate established an online presence, but other than the two major presidential candidate sites, many of those were rather underdeveloped by today' standards. Because the skills necessary to generate a

political web page that takes full advantage of all the possibilities were yet to be developed, many sites were referred to as *brochureware*, "which clearly describes a collection of information that is not significantly different from what one would find in a company's [party's] catalogs and advertising flyers" (Rash 1997). Alyson Behr, a web technologies analyst, too, subscribed to this point of view, labeling the Pat Buchanan site "the weakest of all sites I've ever reviewed" (Behr quoted in Rash 1997, 54). Nevertheless, the two major candidates' homepages demonstrated professional and innovative web appearances; the best possible in 1996.

Virtually all congressional and local races have been going online in an increasingly professional manner, and have reinforced the overall trend of Internet politics. In all areas of the political process Internet-related applications and services have surfaced (Casey 1996). Countless discussion groups cover the political agenda, all major news services are online today, and e-mail offers new dimensions in communications for campaign and grassroots operatives. Customized information and news services from political parties, candidates, and interest groups allow *netizens* precise and target-oriented access to preferred information. Political strategists have the opportunity to deliver their message at a new level of convenience at dramatically minimized costs. The Internet provides unfiltered access to and feedback from politically active citizens. What is more, political institutions have embraced the new technology and use it internally, as well as externally to communicate with constituents. This is not only observable in the White House, but also Congress, whose Internet pages offer a plethora of information on structure, proposed laws, Representatives, and Senators. Congress' entry into the information age was first documented by Chris Casey (1996), and recently received more scholarly attention (Thurber and Campbell 2003).

The above matters, however, were not believed to have a significant effect on election outcomes until a former wrestler by the name of Jesse Ventura surprised political analysts and became Governor of Minnesota in 1998. Ventura's success clearly was a result of many factors, but the Internet, and more specifically, Ventura's campaign web site, played a significant role in the successful campaign. The centrality of the Internet in the Ventura campaign was well recognized by Ventura himself and his 1998 campaign manager, Phil Madsen, who described the web as the campaign's nerve center (Beiler 2000).

Moreover, as the race for the White House heated up in 2004, the Internet and its political use made headlines again. This time it was Democratic presidential hopeful Howard Dean, former Governor of Vermont, and his campaign web site *deanforamerica.com*. The Dean campaign raised eyebrows because of its aggressive and innovative use of the Internet as an integral part of his campaign. The Dean campaign maintained several web sites and blogs and the digital armada helped the campaign to advertise the program and issue positions at low coast and was instrumental as an organizational tool and grassroots instrument (Rosenthal 2003). Furthermore, the Dean online campaign set another record as well: The Internet for Howard Dean became the premier source of campaign contributions. In the last quarter of 2003 alone, Howard Dean raised more than $14.5 million via the web (Justice 2003). The extremely successful implementation of online strategies even took the candidate and his staff by surprise. It is to date the most powerful show of what impact the Internet can have in a political campaign; in Dean's campaign manager Joe Trippi's words: "The Internet is the most democratizing innovation we've ever seen – more so than even the printing press. There has never been a technology this fast, this expansive, with the ability to connect this many people from around the world. If Madison was right, and the people can only govern themselves with the power which

knowledge gives, the Internet is the first technology that truly gives people full access to that knowledge – and empowers them with the ability to do something with it" (Trippi 2004).

The other campaigns were following Dean's example. Since October 2003, one could observe increased efforts by the Bush campaign to campaign online at *georgewbush.com*, utilizing the same "hip" techniques like "blogs" to personally stay in touch with prospective voters. Moreover, during April 2004 the John Kerry campaign heavily utilized their e-mail database to foster its drive for"10 Million in ten days" (Hira 2004). It thus becomes apparent to even the most skeptical mind that the digital political revolution was taking hold. What started out as a novelty in 1992 gained maturity in 1996 and was an accepted new means of campaigning no later than the year 2000. By 2007, it continued to grow as a new major means of political communication with a vast untapped potential as it grew in size and sophistication.

As is apparent from the above overview, the ways the Internet is utilized in the political process are manifold, from fundraising to grassroots campaign organization, and from Presidential digital diaries to newsgroups serving virtually every political flavor. The need for systematic, empirical research is intense. The omnipresent Internet might sound like old news in 2007, yet its impact on the political process still is a fairly recent one. In the light of the 2000 and the 2004 Presidential as well as the 2006 mid-term elections, the Internet's role as a campaign tool has become more and more prominent, evolving from novelty into normality as references to its use in the political process become more commonplace, even in the traditional media. Some work already has been conducted in this relatively new field of inquiry (Graber 1996, Bimber 1998, 2001, Bimber and Davis 2003, Cornfield 2004, Anderson and Cornfield 2003). This particular research aims to take an additional step towards the understanding of the Internet's impact on aspects of electoral behavior and its precursors. The goal is to move from a

broadly designed descriptive process towards a specific inquiry focusing only on two certain aspect of the Internet's impact on the political process: Knowledge and participation.

Specifically, I will focus on the possible effect of the Internet on the electorate: first, are those who are online better informed about politics than those who are not, net of other factors? Does the medium increase information only among citizens who are politically aware in the first place, or does it in fact help bridge the information gap between the informed and the uninformed? Is the new medium an amplifier of existing patterns, an equalizer of existing devides, or does it have no impact at all? Assuming an effect on citizens' information levels, the question then arises if this additional information adds to a person's likelihood to transform it into political action. Are the better informed more likely to participate in the political process? In the light of low electoral participation, does the Internet act as a stimulus to move people from the couch into the voting booth, as has previously been suggested by Tolbert and McNeal (2003)? "Hip" technologies like *YouTube* and their application in the political process are adding additional spice to a previously more mellow and streamlined dish of political debate, which was less appealing to a younger generation. I am interested to test its possible effect on electoral participation while controlling for standard predictors of political participation. Visionaries of information technology and democracy have asserted that technological advances hold the potential to function as an equalizer for the disconnected: to flatten access to political information (Barber 1984, Dahl 1989, Morris 1999). On the other hand, past research has indicated that only a subset of the population benefits from the Internet politically; the focus was on the digital divide, the gap between the haves and the have-nots, denying notions of a cyberspace revolution (Margolis and Resnick 2000). Moreover, scholars have argued that as the information revolution took hold, it helped form a new political elite rather than leveling the

playing field (Hindman 2007, Coglianese 2007). Furthermore, effects of the Internet on political participation were described to be limited to donating money over the web in presidential races (Hindeman 2007). However, with the information revolution still ongoing, the questions pertaining to its influence on the electorate cannot be regarded as permanently answered. Particularly since the Internet continues to engulf American life, since its applications like *YouTube* are becoming more and more prominent within the political arena and are advertized widely on national television, the question remains: will the Internet continue to only benefit a political elite, or will it pave the way for a wider political audience as it continues to grow comparable only to television?

Next, I will (1) review literature on political knowledge and participation, (2) discuss the role of education as a conditioning variable, and (3) provide a theoretical overview of the Internet as a political medium.

Political Knowledge and Participation

Political knowledge is an important part of democratic theory. Not only is the most basic assumption of a democracy the universal participation of its citizens, but we should also assume that these citizens are somewhat knowledgeable about political affairs in order to be able to reach informed decisions. However, this romantic notion of a politically active and informed citizenry does not live up to today's realities. While most researchers agree on the fact that the overall political knowledge of the American public is relatively low, there exists disagreement whether this poses a threat to the proper functioning of the American democracy (Lupia and Mc Cubbins 1998). Questions pertaining to how much or little the electorate knows, how much it should know, and how its alleged political ignorance impacts democratic institutions have been

surfacing since the beginnings of the American Republic. The founding fathers shared a healthy skepticism when it came to political knowledge and the democratic competence of the American populous, which is evident in Alexander Hamilton's remarks at the New York Convention to ratify the constitution on June 24, 1788:

> "It is an unquestionable truth that the body of the people in every country desire sincerely its prosperity; but it is equally unquestionable that they do not possess the discernment and stability necessary for systematic government. To deny that they are frequently led into the grossest errors by misinformation and passion would be a flattery which their own good sense must despise. That branch of administration especially which involves our political relations with foreign States, a community will ever be incompetent to." (Hamilton [1788], 2007)

Ever since Hamilton's day, the laments continued. In the 20th century, Walter Lippmann's *Public Opinion* (1922), too, investigated how people receive fragmented messages about the world around them and then self-complete their notion of the world surrounding them. Innocent of factual political knowledge, individuals rely on imagination and stereotypes to complete an incomplete picture:

> "The world that we have to deal with politically is out of reach, out of sight, out of mind. It has to be explored, reported, and imagined. Man is no Aristotelian god contemplating all existence at one glance. He is the creature of an evolution who can just about span a sufficient portion of reality to manage his survival, and snatch what on the scale of time are but a few moments of insight and happiness. Yet this same creature has invented ways of seeing what no naked eye could see, of hearing what no ear could hear, of weighing immense masses and infinitesimal ones, of counting and separating more items than he can individually remember. He is learning to see with his mind vast portions of the world that he could never see, touch, smell, hear, or remember. Gradually he makes for himself a trustworthy picture inside his head of the world beyond his reach." (Lippman [1922], 1997, p. 16.)

Early public opinion research was dominated by a minimalist paradigm, the assertion that the average citizen's knowledge of political affairs is minimal and most people are

ignorant on most political issues (Berelson, Lazarsfeld, and McPhee 1954). Campbell et al. (1960) also found that voters lack political knowledge, factual political information, and ideological conceptualization. Converse (1964) confirmed this basic notion; he found low levels of political knowledge and poorly organized belief systems among the citizenry. The original view can be summarized as the view of the unsophisticated voter.

Later research, however, was less pessimistic about people's political knowledge. Increases in levels of education of the citizenry were believed to also have increased levels of political knowledge (Inglehart 1977). Moreover, there exists dissent as to the impact of factual political knowledge on individuals' decision-making capabilities in the political arena. Jacoby (1986), for example, claims that people are moderately sophisticated because they are able to place themselves on a liberal-conservative scale. However, one could easily criticize this argument on the basis that it requires not much more than pointing a finger on a scale. Having given up the notion of knowledgeable citizens, researchers then turned to the question of how citizens understand, rather than how much they know. The new focus is on how people receive information and how they process it, rather than investigating fixed cognitive capacities (Hamill and Lodge 1986; Sidanius and Lau 1989; McGraw and Lodge 1996). Sniderman, Brody, and Tetlock (1991) argue that citizens compensate for limited information via heuristics with different people taking advantage of different heuristics depending on the amount of information they have available. The authors introduce the concept of affect-driven reasoning, which holds that a person's likes and dislikes toward groups color their policy preferences, even in light of very low levels of information available on a specific policy issue. The general argument is that the lower the level of knowledge, the more likely a person is to rely on affect-driven reasoning. As levels of knowledge and sophistication increase, citizens are able to give more weight to

abstract cognitive considerations like ideology, values, and the like. What is more, researchers also observed a link between citizens' levels of political information and their likelihood to vote; the better informed are more likely to cast a vote on Election Day (De Vreese and Boomgaarden 2006).

In the most comprehensive study on political knowledge *per se*, Delli Carpini and Keeter (1996) found that large numbers of the electorate are ill-informed about politics, while there exists "more than a small fraction of the public" (p. 269), which is "reasonably well informed about politics" (p. 269). Levels of political knowledge in the United States at the time of their study are not substantially different from levels of political knowledge during the 1950s. Since "education is the strongest single predictor of political knowledge" (p. 272), this finding stands in contrast to increasing levels of education since the 1950s, which should have led to an increase in the overall political knowledge of the electorate. Delli Carpini and Keeter (1996) argue that this is the result of offsetting forces: while educational levels have risen, other factors have offset the impact of education on political knowledge, for example a decline in newspaper readership. Moreover, the authors point to a distinction between knowledge about local politics and knowledge about the national government. They also identify differences between socioeconomic groups and how these differences affect each group's learning about politics. For example, the authors show that poor black women scored the lowest on the political knowledge index and white, affluent males scored highest. This demonstrates the "exceptionally close fit between political knowledge and socioeconomic status " (Delli Karpini and Keeter, p. 161). In other words: different socioeconomic groups "vary in political knowledge in ways that mirror their standings in the social, political, and economic world" (p. 271).

Political Knowledge and Participation

These authors also find that a citizen's level of political knowledge directly relates to their behavior in the political world. The better informed are more likely to hold stable opinions and attitudes on various political issues; they are more likely to actively participate in politics and choose candidates who are consistent with their own attitudes (Delli Carpini and Keeter 1996). In the light of these findings, political scientists should be concerned with any new development that might increase political knowledge and voter turnout. In a study on content preference, Markus Prior (2005) showed that media choice, including the Internet, not only has an effect on respondents' political knowledge, but also on voter turnout. He notes that "political knowledge and turnout are tightly related because exposure to political information motivates people to vote" (p. 583). Moreover, Galston (2001) in a study on civic education and political knowledge argued that levels of political knowledge have an effect on individuals' acceptance of not only democratic principles, but also political participation. He argues that young adults born between 1910 and 1940 portrayed "exceptional civic interest and engagement" (p. 232), which persists until the present, while later generations have displayed stronger disengagement in political matters (Putnam 2000 in Galston 2001). If this trend of disengagement among younger generations holds true, the Internet with its particular appeal for younger adults may provide a much-needed stimulus; a stimulus that seems to have been absent in the decades before the Internet's advent in light of a decline in voter turnout. Scholars identified the reasons for a decrease in voter turnout from 1964 and 1976 as "decreased political efficacy, a decrease in reliance on newspapers for political information", and an electorate "both younger and older" (Schaffer 1981 p. 68). Bruce Bimber (2001), on the other hand, found no direct link between the Internet as a tool for political communication and political participation between 1996 and 1999

(except for donating money). However, the Internet' impact on the political game has changed significantly since then and a renewed interest in a possible direct relationship between the Internet as a political outlet and the likelihood to vote seems warranted.

There are three potential effects of the Internet on political knowledge. The first possibility is that increased access to the new medium will help educate citizens on political issues, hence contributing to an overall increase of political knowledge of the public since the Internet dramatically reduces individual cost and effort of information gathering. An opposing theory holds that the spread of the media contributed to a split of the population into the information poor and the information rich (Bell 1973; Burnham 1978 in Carpini And Keeter, 1991). This argument corresponds well with the ongoing debate about access to the Internet and its social implications, usually labeled the *digital divide*, which splits the population into *haves* and *have-nots*. The final possibility is that exposure to the internet has no effect on political knowledge at all. In the light of the importance of citizens' political knowledge, it will be important to investigate if the Internet so far has had a significant effect on the public's political knowledge, and what segments of the population are benefiting from it. If an observable effect of the Internet on political knowledge exists, I will then ask if these individuals are also more likely to cast a vote on Election Day, given the demonstrated link between political knowledge and political participation.

Education as a Conditioning Variable

Education has long been recognized as a precursor of political sophistication and awareness. As Converse (1974) noted, education is "probably the prime predictor of dependent variables reflecting political interest, participation, and mobilization" (p.730). Education also

affects the political information level of citizens. As students go through additional schooling, they are exposed to stimuli in the form of discussions and classes, which expose them to political information (Luskin 1990). Moreover, additional schooling also increases a person's ability to meaningfully interact with a computer. I argue that the Internet grew to influence levels of information across the board for those online, but will be most pronounced for a group of elite users. Previous research suggest that certain aspects of the Internet, particularly political blogs specifically cater to the politically engaged; (Rainie 2005, Hindman 2007). The pivotal role of education in this context invites me to theorize that education will also have a significant impact on who is most and least affected by using the Internet. As higher education sets the stage for higher technical and cognitive skill, higher political awareness, and higher political interest, I assume the hypothesized effects of the Internet on political knowledge will be most pronounced among the educated. This will reinforce the role of the Internet as a *Megascope*, a magic lantern for the politically aware, rather than an equalizer for the politically unaware (again, there is nothing presented thus far that would lead anyone to hypothesize otherwise. In addition, recent survey data from the Pew Research Center for the People and the Press reinforce the strong impact education has in particular on levels of political knowledge: Out of a battery of 23 factual questions asked to measure levels of political knowledge; researchers classified respondents into three basic groups, based on the number of correct answers: the "High" knowledge group, the "Medium" group (10-14 correct answers) and the "Low" knowledge group (9 or fewer correct answers). The impact of education is massive: Sixty-three percent of respondents with a college degree fall into the "High" group, whereas only 11% of college graduates are in the "low" group (The Pew Research Center for the People and the Press 2007).

The Sophistication Interaction Hypothesis

Using education as a conditioning variable is a test of what has been labeled in the literature as the sophistication interaction hypothesis. This hypothesis refers to a renewed research interest in the differences between voters based on their levels of political awareness. A person's sophistication affects the ability to process and categorize received political information. Prior to this hypothesis, scholars based their research on the assumption that all voters make up their minds in the same way. It was erroneously assumed that the sophisticated make up their minds in the same way as the unsophisticated. However, the sophistication interaction hypothesis posits that this is not the case. More specifically, the politically sophisticated and unsophisticated have different ways of decision-making (Gomez and Wilson 2001; Sniderman, Brody and Tetlock 1991).

To come to terms with the sophistication-interaction hypothesis, we first need to investigate what the term "sophistication" means. Political sophistication has had a variety of definitions and measures. An early meaning was put forth by Campbell et al. (1960), who equated sophistication with the ability of voters to organize beliefs in ideological ways. Their principal finding was that voters' political opinions are unorganized, unrelated, and without constraint. Converse (1964), too, regarded political sophistication as ideological ability. The measurement was based on answers to open-ended like/dislike questions. Under this model, the ideologues were regarded to be politically most sophisticated, because they were able to describe candidates and parties in ideological (more abstract) terms. Only a limited subset of the population was found to possess this ability, thus reinforcing the belief of the unsophisticated voter.

Other researchers, however, employed a more literal definition of sophistication. Jacoby (1986) claimed that voters are moderately sophisticated based on ideological self-identification; most respondents are able to place themselves on a scale as conservatives, moderates, or liberals. These results can be criticized on the grounds that it does not require much more than pointing a finger on a scale, without necessarily understanding the true meaning of ideological terms. Another liberal definition is simply knowing that liberal and conservatives are opposites (Green 1988). At this time the question was simply "how sophisticated is the American public?"

It was Sniderman (1991) who illuminated a "new look" in public opinion research and summarized researchers' attention to a new role for political sophistication. In general, we can identify new approaches to the role of political sophistication, departing from the minimalist assumption. The focus of research has shifted, from asking to what extent citizens understand the political environment to asking *how* they understand it and what difference political sophistication makes. As Sniderman, Brody and Tetlock (1991) stated, "differences between people in their levels of political awareness seem to us a good bet to affect systematically their reasoning about political choices, ramifying through their calculations about candidates, values, and issues" (p. 20).

Evidence for the sophistication-interaction hypothesis can be found in action in many instances, and across a variety of different issues. Sniderman; Brody and Tetlock (1991) showed that a person's likes and dislikes influence their policy standpoints, even in the absence of factual knowledge about a particular issue. This is referred to as affect-driven reasoning. A good example illustrating affect-driven reasoning is the issue of race. If respondents are asked if they support or oppose the government providing extra opportunities for blacks to ensure the rule of equal opportunity, a respondent just needs to fall back on to his feelings about blacks to provide

an answer, without possessing any factual knowledge about the principle of affirmative action, related government programs, and the like. Those feelings are not knowledge, but they are immediately accessible, coming from the "gut". The sophistication-interaction hypothesis can be seen in action because the less sophisticated a person is, the more likely that person is to resort to this type of affect-driven reasoning, having less information about the issue, but nevertheless having strong opinions about it based on feelings. The more sophisticated a person is, the more weight is given not only to factual knowledge, but also to more abstract forms of reasoning like ideology; the sophisticated tend to consider a broader range of factors when forming an opinion on an issue while the less sophisticated focus is narrow and focused on the obvious.

Hamill and Lodge (1986), too, contend that voters make up their minds differently based on their level of sophistication. The authors used schema theory to investigate the impact of sophistication. In their study of knowledge of political leaders, individuals were classified into three levels of partisan sophistication; the authors found that the most sophisticated make up their minds differently; they tended to recall more information about political figures that was consistent with their respective party identification. This again reinforces the finding that the politically sophisticated make up their minds in different ways.

Studying Internet Politics

The Internet has invited some study and speculation regarding its effects on politics. While most scholarly and other interested inquiries focus on the effects that the Internet will have on voting patterns, I wish to focus on conditions that are part of the political process, but precede the voting process. Specifically, I wish to confine my inquiry to (1) the effects of the Internet on political knowledge, and (2) its effect on political participation. I believe that in order

to reasonably assess how the Internet affects political actions, it is first important to review existing evidence to see if the Internet has changed the way people gain the information that they translate into political action. The following section will provide an overview of the media, while Chapter two investigates the Internet and its position within the media in detail.

Historical Overview

Technological innovations have always left an imprint on how politics is conducted and communicated, and the Internet marks the latest significant innovation of that kind. Early newspapers throughout the 18th and 19th century were highly biased and heavily partisan in their political coverage, yet served an important purpose – they connected political elites with voters. The first step away from these party papers was what became known as the "penny press" – newspapers that began to use advertising revenue that enabled them to sell the paper much cheaper to the public – the price dropped from around six cents per paper to a penny, thus limiting the dependence on party funding and giving way to the birth of a more independent medium. (Perloff 1998).

The next big advancement was the spread of the radio. Continuous broadcasting began in the early 1920s. The first politician who used radio for political purposes was FDR, who delivered the first of his now famous "fireside chats" in 1933 (Janda et al. 2002). While groundbreaking at its time, the significance of radio today does not lie in the dissemination of political news to the public, but in "talk radio", a forum for politically biased debate and opinion statements. Talk radio is a means of political discussion of politics and today still attracts scholarly interest (see Kurtz 1996; Scheufele 2001).

However, the grandest revolution prior to the advent of the Internet was television. No other medium has left such an imprint on communicating political information to the electorate (a good overview of the subject can be found in Perloff 1998). This was a lesson that an unfortunate Richard Nixon had to learn during and after the first major televised presidential debate against a prepared and charming John F. Kennedy, who realized the immense power of the new medium early on and took full advantage of it. A less prominent use of a political nature had already occurred in 1940, when results of Presidents Roosevelt's reelection were broadcast on two stations (Janda et al. 2002). The impact of the omnipresent television on politics since the 1960s is now history.

Traditional Media Effects

Early research on the media and political behavior dates back to Paul Lazarsfeld and his landmark study *The People's Choice* (1948). He reported that the media had three major influences on the behavior of his respondents: (1) they activated latent political predispositions, (2) they clarified and crystallized attitudes, and (3) they reinforced the vote choice of strong partisans and converted the decisions of only few voters. Another important finding was the influence of opinion leaders on opinion followers, a process labeled "small group dynamics." That is, politically informed leaders influenced the decisions of the less informed (the followers). Katz and Lazarsfeld (1955) further developed this observation into the "two-step flow of information". Unlike the "magic bullet" theory, which holds that information and messages dispensed by the media reach each individual directly, the two-way flow information theory assumes the existence of a mediator, or opinion leader – an attentive and aware media consumer who passes on the knowledge gained from the media to less attentive citizens and voters. This

opinion leader is influential in the dissemination of media messages, as lower end consumers receive messages that have been filtered and passed on by the opinion leader. The consensus of early research on media effects was that the media only reinforce existing patterns, rather than changing them. Joseph Klapper (1960), too, joined the chorus of limited media effects; his limited effects notion helped cement an early belief that the media does not contribute much to changing citizens' minds.

Additional research, however, challenged this belief and over time delivered a more refined picture of media effects on voting behavior by taking different approaches. Probably the most prominent concept emerging from more modern research on the impact of the mass media on the political process is the concept of agenda setting. Agenda setting refers to the impact the mass media have on ranking the importance of the issues that dominate the public debate; the amount of coverage the media give certain issues influences how important these issues are for the electorate.

There are several important consequences of agenda setting that stimulated further research in this area. The first important concept that needs to be mentioned in this context is the priming hypothesis. The concept of priming refers to the effect the news media have on how people evaluate political candidates and officeholders. Priming occurs when media coverage accounts for higher levels of interest and importance attached to a particular issue. Most research on priming has been conducted on the presidential level and is based on experimental studies (see Iyengar 1991). Iyengar and Kinder (1987) argued that citizens change their basis for evaluating the president based on the issues emphasized by the media. In addition, Krosnick and Kinder (1990), using aggregate-level survey data, presented evidence in support of the priming hypothesis by demonstrating the effect of the Iran-Contra scandal on levels of support for

President Reagan by comparing before and after scenarios. Moreover, Krosnick and Brannon (1993) focused on the impact that the news media coverage of the first Gulf War had on presidential evaluations. More recently, researchers attached more conditions on when and how priming occurs; a good example are Miller and Krosnick (2000), who argue that priming can be affected by a respondent's political knowledge and trust in the media. This research clearly indicated that the impact of the mass media on political behavior is not as simple as earlier research suggested; it showed that the issues emphasized by the mass media affect the way people make up their minds about politics.

Within the context of this research, it is noteworthy to underline the importance that some scholars have placed on the technology of the media *per se*. A good example of this focus can be found in Dayan and Katz (1992), who stress that the technological diffusion of television affected citizens in new ways, since only television has the ability to transport media messages in new, unique formats like moving images. More specifically, the authors focus on media events, pivotal moments in history broadcast live into peoples' living rooms and thereby shifting focus to one event.

Despite television's omnipresence as a source of political information, there has not been an increase in political knowledge. In the 1940s, there were already 23 television stations operating in the United States. Development of television was somewhat curbed by World War II, but after the war TV usage exploded, much like the Internet continues to do today (Janda et al. 2003). In 1960, 87 percent of American households had television. Today, a vast majority of U.S. citizens get their political news from television; a study by the Pew Center for the People and the Press suggests that in the year 2000, some 70% indicated they received their political news about the presidential campaign from television (Pew Center 2000). The high number of

citizens relying on television for their political information while overall levels of political information remain low has led to criticism of the television as a political medium. This criticism is known as the *television hypothesis*, the notion that television is responsible for the ever-low levels of political knowledge of the American public (Neuman, Rust and Crigler 1992). There are many arguments to support this claim: In the fast-paced world of today's media, where newsworthiness reigns supreme, complicated issues are condensed into one-or two minute fragments, and candidates' personalities are moved center stage. In the age of horse-race journalism, many claim that the fast-food media culture and the sound bites it produces are to be held responsible for a lack of in-depth coverage and an ill-informed public.

In the light of these arguments and findings regarding television it is safe to assume that the Internet as the latest significant technological innovation harbors the potential to change patterns of political communication and its effect on political behavior. What was started in the modern day by the printing press has been altered by the introduction of the radio, which in turn gave way to the rise of television. This evolution continues today with the emergence of the Internet, which not only has paralleled television in its growth pattern, but also introduces unique new features to the world of mass communications that simply were non-existent only a few years ago.

Internet versus Traditional Media Effects. The Internet has new, unique features like interactivity, the ability to transport different media formats at once, and the ability to network documents that set it apart from traditional media, including television. Thus, traditional media effects will not necessarily apply to the Internet. Many authors point out that the Internet is used only by a subset of the population (Hill and Hughes 1998; Davis 1999). Still others argue that the

demographics of the Internet tend to reflect white male users over other populations, particularly ethnic minorities, the poor, and rural dwellers (Dahlgreen 2001; Browning 1996). It is also apparent that the Internet has had more of an observable impact on economics and commerce than on politics. Other scholars, however, point to out that Internet usage is exploding, and that the costs to individuals of getting, setting up, and using technology to gain access is rapidly falling. One even argues that some of the demographics of the Internet roughly approximate the demographics of society – that is, the percentage of Africa-Americans and Hispanics that use the Internet roughly approximates the percentage of these demographic groups within the population (Morris 1999). As penetration of the Internet continues to spread into the American mainstream, these so-called *digital divides* are likely to disappear. Wilson, Wallin and Reisser (2003) observed that divides along rural and gender lines have been disappearing once controlled for socioeconomic variables, but also note that a digital divide continued to exist for African-Americans . In 2007, focus has shifted from Internet access to *what kind* of Internet access. (Prieger 2003). I will discuss the issue of connection type in this context further in Chapter two. Martin and Robinson (2007) shed additional light on the *digital divide*. They found that the probability of Internet access is highest among high-income households, whereas it is lowest for the lowest-income level. Martin and Robinson predict it might be as late as 2009 before a majority of low-income people have access. I consider these arguments to be important, but they do not detract from my thesis that the Internet affects information levels among individuals who use it. Dahlgreen (2001) argues that the limitations of studying those who use the Internet are offset by the sociological profile of the group. Those who use the Internet tend to be better-educated individuals who are interested in politics and whose opinions will most likely help shape the political climate. In other words, Internet users are those who actively participate in

politics as a matter of choice (Morris 1999). However, as the diffusion of the technology continues and more American gain access to it, the overall impact can be expected to be more widespread.

All consumers of information are dependent on the intervention of the media to determine what is salient and newsworthy. While news is made every day in every part of the world, the media must determine what to report and what not to report. These judgments are then passed on to the information consumer. The ordinary person does have some choice regarding what he or she receives from the media. The channel can be changed, or a different newspaper can be bought. However, the choice is constrained by the structure of the media. Only a certain number of news channels are available, and there are only so many newspapers at a newsstand. In addition, the recent concentration of media ownership restricts information choice even farther.

Commentators on the Internet, when considering its informational uses, have identified ways in which the Internet reflects the other modern media, and ways in which informational content is altered. Dahlgren (2001) argues that the Internet is merely an extension of the mass media, and Davis (1999) sees the Internet as being dominated by the same actors that are currently dominant in other areas. The traditional media have set up web sites where they offer their traditional product. Because names like CNN, NBC, ABS, the New York Times and the Washington Post are longstanding media names, users will tend to go back to them. These traditional media powerhouses offer the structure and credibility which users want and other sources lack.

Other Internet watchers tell a different story. While some agree that the traditional media are and will continue to be a force on the Internet, they do not see them dominating. The Internet

has characteristics that differentiate it from the traditional media. The Internet is a decentralized medium that emphasizes an unmediated information flow, interactivity not available in traditional media, and greater freedom of choice in choosing what information to access. "The Internet has brought about a decentralization of power," argues Stephen Coleman (2001, 117). "In the wired world individuals can now make their own choices as to which authorities and information choices they will accept. This is leading to a greater democratization of knowledge, empowerment of the individual and the potential for more informed interaction between the citizenry and organizations, including government." He sees the Internet as opening up new information sources, allowing for unmediated and interactive public deliberation, and altering the way that public officials do their jobs. Likewise, Morris (1999) sees old interest groups failing if they do not master the new medium, and new interests forming that take full advantage of the ability to organize over the Internet. Those that appeal to the average voter, such as public interest groups, will be the most successful. He also predicts that the use of the traditional media will fall with an increase in Internet use.

If the internet is nothing more than traditional media in a new package, then there is nothing of much value to studying the Internet and its effects on the informational processing of its users, because the results will be the same as existing studies on any media. If the Internet is a new type of media with different effects, then we must identify what is different about it. I argue that the Internet supplements traditional media as the intermediary between information sources and the public. The traditional media pick up information from sources such as the government and interest groups (i.e. business, environmental, or social). This information then goes through the media's process of determination, which accepts and discards information on the basis of such factors as salience, newsworthiness, and timeliness. Once the media decide on the

information to report, they release it to the public through the various outlets, i.e. newspapers, television, radio, etc. While there are some elements of a two-way communication flow in this relationship, the one-way communication flow from source to public tends to be greater in terms of volume and organization. Theoretically, the public could go straight to the source, without relying on the media. However, this entails information gathering costs that are greater than simply picking up a newspaper, or turning on a television set.

This describes the political information flow before the advent of the Internet; it does not adequately explain the flow of information today. The Internet is characterized by factors that alter its users' information gathering habits. The Internet contributes to a decentralization of knowledge. If the traditional media have served as the conduit of information to the people, they have also served as a repository of that knowledge. They have not had a full monopoly of information, but the costs of getting information outside of the traditional media sources are usually high. The Internet decreases the costs of getting information. If a person wants information on a campaign, he or she does not have to wait for the newspaper, but can take a look at web sites. Citizens can also access a wider variety of information sources than they otherwise could or would access through traditional media. The Internet will not replace the traditional media sources, but it may help the information consumer become more knowledgeable by broadening the amount of information and resources that can be obtained. Hence, I view the Internet as a magnifying glass, or *Megascope*, for the interested citizen.

Another factor distinguishing the Internet is interactivity. Many aspects of the Internet are built around its interactive uses, and these not only affect the information gathering capabilities of the individual *netizen*, but also can contribute to a greater sense of community and involvement. In particular, groups that utilize the Internet, in the form of e-mail, list-serves and

web sites broaden their members to participate in the group and connect with group members that they may have connected with before. This interactivity and connectedness, along with greater decentralization of knowledge, can potentially add a powerful boost to political involvement. We have witnessed successful uses of this interactivity feature among groups sharing similar interests, staying connected via e-mail and exchanging information not only through web sites, but also via newsgroups. Politically, this can be utilized by a political campaign, as successfully demonstrated by the Ventura and Dean campaigns mentioned earlier.

The implications of these dynamics for this research are obvious. Every technological innovation in political communication like the radio or television has had a noteworthy impact on how citizens receive political information and how it affects their political behavior, and there exists ample research to document these changes. With a new mass medium now firmly established in the daily lives of a majority of Americans, the need for systematic research on the effects of this medium on the electorate is inevitable.

Chapter 2 Descriptive Trends on the Internet as a Political Medium

In order to understand the possible impact the Internet has on how citizens, governments, and organizations communicate today, and the possible effects the Internet has on how the electorate makes up their minds, it is necessary to examine the medium's growth, its audience, and their news consumption behavior in the digital age in greater detail. This chapter aims to set the stage for subsequent multivariate analysis by investigating the (1) the web's growth, (2) demographic characteristics of its audience yesterday and today, and (3) how citizens use the web for news gathering, with a focus on the Web as a source of political information compared to traditional media outlets. I will review data and existing studies on the Internet and elections, with a focus

on the 2006 mid-term election. In particular, these studies will help set the stage for the two main research questions of this work: if the Internet has an independent effect on citizens' levels of political knowledge, and if it exercises an independent effect on a person's likelihood to vote. The Internet's effect so far was most pronounced during the 2006 election; its influence on politics can be traced back to 1992 and 1994, respectively, when the first candidate campaign web site went online. Since these humble beginnings, the Internet has been steadily claiming ever larger territories on the map of political information.

Coming of Age

The Internet has been growing rapidly. Its emergence already has been compared with the rise of television in the 1960s. Many believe it will parallel or even replace television with regard to the impact on the political realm. As Phil Noble, founder of *politicsonline.com* pointed out: "Today in 1998, politicians are at the same point of convergence with the Internet as they were with television in 1960. The parallels are striking" (Noble 1998). Access to the Internet has been constantly rising; in 1995 some 17.5 million Americans were connected, by 2005 that figure had already reached 172 million (Harris Interactive 2006). In 2007 the focus has shifted from how many do connect to how they connect: I suggest that the type of connection speed does have an effect on Internet usage, particularly for home users. Only users with high-speed connections at their fingertips can take full advantage of the political web with its new bandwidth-intense features like streaming video. The *YouTube* revolution will be of little use to individuals with slow dial-up modems.

Table 2.1. Connection Type for U.S. Adults, 2002-2005

	February/ March 2002	November/ December 2002	October/ December 2003	June/ August 2004	April 2005
	%	%	%	%	%
14.4k modem	1	2	2	1	2
28.8k modem	4	5	4	4	3
33.6k modem	2	2	2	2	1
56k modem	39	29	20	23	18
ISDN line*	1	1	1	1	1
Cable modem*	13	14	21	22	24
ADSL/DSL*	7	11	14	19	28
T1 or T3 line*	1	1	2	2	1
Other	4	6	6	4	7
Not sure	27	27	25	21	14
Decline to answer	1	2	2	1	*
TOTAL BROADBAND (NET)*	**22%**	**27%**	**37%**	**44%**	**54%**

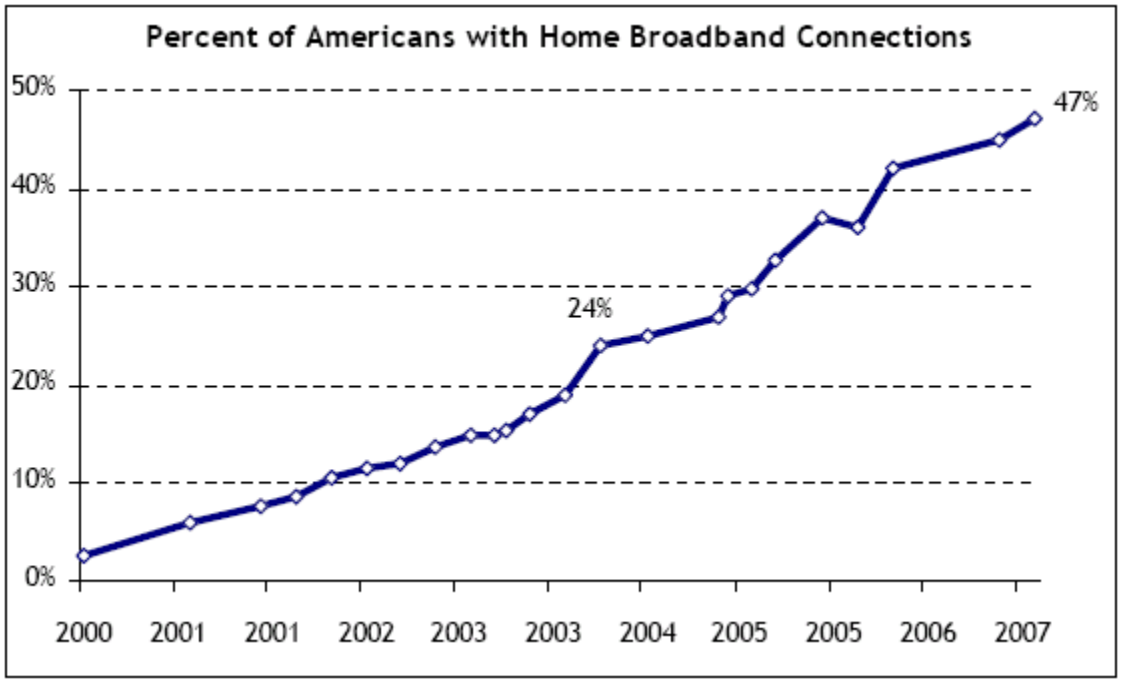
***Includes ISDN, Cable, ADSL/DSL, T1 or T3 lines.

Source: The Harris Poll 2006

Hence, I will investigate the impact of connection speed on individuals' online behavior. As can be seen from Table 2.1, the number of Americans with broadband connections has been increasing constantly; from 22% in 2002 to 54% in 2005. More recently, data from the Consumer Electronics Association (CEA) suggests that 72% of U.S. Adults have broadband access (from anywhere) as of July 2007 (Consumer Electronics Association 2007). Furthermore, as CEA's President and CEO, Gary Shapiro pointed out, "increased broadband access brings with it the hope of widely disseminating knowledge and improving healthcare and distance learning services. Broadband access spurs innovation and technology for all Americans" (Shapiro in Consumer Electronics Association 2007, p. 1).This is relevant to this research

because connection type has been associated with an individual's online behavior. Specifically, John Horrigan highlighted that "Americans with high-speed Internet connections at home are more likely than dial-up users to get news online the typical day" (Horrigan 2006, p. 2). Connection speed thus seems to be causally related with online news consumption; as people drop slow dial-up connections and move to broadband, we should expect an increase in online news consumption. However, one should note that these data are based on access to broadband anywhere, not just at home. I argue that the impact of a broadband connection will be most pronounced at an individual's home, where it should be most convenient. Figure 2.1 displays broadband penetration in American homes, rather than at any location, and we can see that roughly every other American can surf the data highway at pleasant speeds from the comfort of their own home.

Figure 2.1. Percent of Americans with Broadband Access at Home



Source: Pew Internet & American Life Project 2007.

Demographic Determinants

In order to assess the influence of the Internet as a tool for political communication, we first need to come to terms with its population. Who are these *netizens*, what is their political engagement, and how has this population changed since the advent of the Internet in politics until today? Internet Users tend to be young and educated (Rainie and Horrigan 2005). But the demographic cleavages have changed over the past decade; user profiles are getting closer to the American mainstream and only a subset of Internet users still stands out clearly. Much has already been reported about the *Digital Divide*, demographic characteristics of the population and their impact on access to the Internet. In the past, three variables exercised noteworthy effects on the gap between the *haves* and the *have-nots*. First, income is an important determinant of computer ownership, which is the basis for Internet access unless a citizen has the opportunity to access the Web from work, school, a library, or an Internet cafe. What is more, research has shown that high-income people also are more likely to have computer access at work (see Novak and Hoffman 1998). Education is causally related to income, as higher educated people tend to have higher income. But education is also positively related to a person's ability to use a computer and the Internet. Moreover, we know about the direct influence education has on political interest (Delli Carpini and Keeter 1996). Race in the past has also demonstrated an effect on computer access and Internet use. In 1998, Novak and Hoffman found evidence for a racial divide among Internet users. They demonstrated that Whites were still more likely to own a home computer and have access to a computer at work. But at the same time, African Americans at that time were more likely to plan a purchase of a PC or Web-TV box in the near future. As a broader section of the American public gained access to the Internet,

however, many of these differences became insignificant in the aggregate. For example, evidence indicates that the gender gap is closing. In 1994, an overwhelming majority, 95%, of Internet users were male. Since then the number of female users has been on a constant rise. Already in April 1998, 58.8% of Internet users who responded to an online survey were male and 41.2% were female (Graphic, Visualization & Usability Center 1998). In 2007, different questions matter: do demographic differences matter in citizens' specific online behavior? Demographic cleavages are more likely to be found within subsets of Internet users, set apart by their online activity. Bloggers, for example, have been identified to be more resembling of the general Internet population during the 1990s than today's general audience; they tend to be white males with higher incomes, and men were more likely to go online for political news (Kaye and Johnston 2006). As I investigate the Internet's role in new consumption, these demographic differences will be accounted for.

Getting the News

When it comes to the popularity of various media outlets, television still reigns supreme. A vast majority get their news from television, more than from any other source. This is equally true for information about elections and political campaigns in the U.S. Table 2.2 summarizes data from the Pew Research Center for the People and the Press and the Pew Internet &American Life Project for primary news sources for Americans during presidential elections between 1992 and 2006. Although the political television audience has somewhat declined over time, even in 2006 no other format comes close; 69% of respondents named television as their primary source when asked about where they got most of their news about the November election. Newspapers still rank second with 34% respondents naming them as the primary source; however newspapers

suffered the steepest decline; from 57% in 1992 to 34% in 2006. The Internet begins to establish itself as a source of political news and is gaining popularity, but even in 2006, only 15% named the web as their primary news source; that number was higher in the previous election of 2004, which could be explained by the fact that the 2004 presidential election was probably more salient in peoples' minds than the 2006 mid-term elections. Also noteworthy is the diminished effect of magazines over time; they accounted for 11% in 1992, but only a mere 2% of respondents named them as their primary source in 2006. Finally, radio is maintaining a stable presence; compared to 1992 even more people named it as their primary source for the 2006 election – a fact that can be attributed to the loyal listeners of talk radio shows. These data show that until 2006 the Internet is still quite far from replacing the prominent news outlets; particularly television, but the trend also shows that it might contribute to a decline of "classic" newspaper reading, a trend that already has been observed. While "classic" newspaper readership is in decline, this effect can in part be offset by newspapers' online presence. Specifically, out of the 38% of respondents who said they read a newspaper "yesterday", "84% only read a paper copy of the newspaper, 6% only read an online version of a newspaper, and 9% read both a paper online and an online version of the newspaper" (Rainie and Horrigan 2007, p.5)

Table 2.2: Primary Media Source for Elections 1992-2006

*Responses from all adults to the question: How have you been getting most of your news about the November elections? **

Primary Sources	**1992**	**1996**	**2000*** **	**2002**	**2004**	**2006**
Television**	82%	72%	70%	66%	78%	69%
Newspapers	57%	60%	39%	33%	39%	34%
Radio	12%	19%	15%	13%	17%	17%
Internet	NA	3%	11%	7%	18%	15%
Magazines	11%	11%	4%	1%	3%	2%

*Respondents were allowed to give two responses
**Numbers do not add to 100% because of rounding and multiple answers
*** The 2000 results are based on registered voters only.
Source: Joint post-election survey by the Pew Internet & American Life Project and the Pew Research Center for the People and the Press. November 2006. n=2,562.

Partisan Differences. During the 2006 mid-term elections, no partisan bias was observed with regard to Internet use; both Republicans and Democrats relied on it in equal numbers. However, a partisan divide is evident among television users; Table 2.3 presents primary news source for the 2006 election by party identification and highlights the differences for different television networks and news sources.

Table 2.3. Media Choices of Republican and Democratic Voters

Asked of adults: *How have you been getting most of your news about the November elections?*

	Main News Source	
	Voted Republican	Voted Democratic
All television	69%	74%
Fox Cable	****24%**	**10%**
Local News	**22%**	**25%**
ABC Network	**11%**	**13%**
NBC Network	**10%**	***14%**
CNN cable	**8%**	***17%**
CBS Network	**7%**	***11%**
MSNBC Cable	**3%**	***6%**
Newspapers	38%	44%*
Radio	21%**	14%
Internet	17%	17%
Magazines	2%	2%

* Statistically significant difference for Democrats compared with Republicans

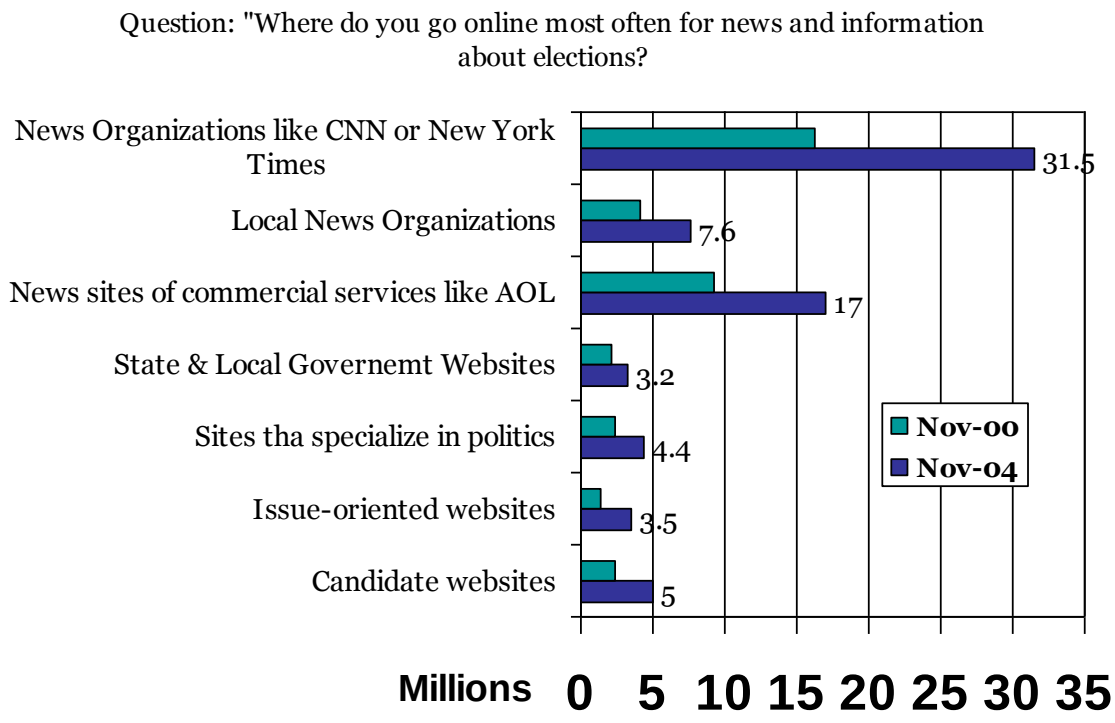
** Statistically significant difference for Republicans compared with Democrats

Noteworthy is a partisan divide for Fox Cable, among the group indicating that television was their primary source of election news; Republicans were more likely than Democrats to get their information from Fox News. At the same time, Democrats were more likely than Republicans to

use NBC, CNN, CBS, and MSNBC within this group. These findings align smoothly with the general conservative perception of the "liberal" media, while Fox News caters to the conservative consumer. Moreover, Republicans were also more likely than democrats to name radio as their primary election news source; this seems to indicate a conservative bias in Talk Radio. Relevant for this research, however, is the fact that no differences can be observed in the Internet use of Democrats and Republicans.

Different Online Sources. For people who get their news online, the sources vary. From major newspaper websites, to online portals, government and candidate websites to blogs, the modern Internet caters to specific information needs. During the 2004 presidential election, online consumers of political news were asked where they go online most often to find information about the campaign. Traditional names still are the most popular; a vast majority gravitated towards familiar names like *CNN*, *the New York Times*, and similar media houses to find information. Other sources, like government websites or local news organizations were less popular. Noteworthy seems the fact that the candidate websites per se only played a minor role as a source of information in this context. The results are displayed in Figure 2.2: a majority, some 31% indicated that they got information online most often from news organizations like *CNN* or the *New York Times.,* while only 5% responded they received most of their information from candidate websites. Similarly, issue-orientated websites, and websites that specialize in politics were not popular either; only 3.5% and 4.4%, respectively, suggested those as their primary election information source. For 2006 election information gathering, the Pew Center for the People and the Press provides detailed data.

Figure 2.2 Online Only News Sources 2004



Source: Rainie, Lee, Michael Cornfield and John Horrigan. 2005. "The Internet and Campaign 2004". *The Pew Research Center for the People and the Press*, March 6, 2005.

Data presented in Table 2.4 show again that in comparison with television, the Internet was only used for election information by a subset of the population. Overall, 16% of all voters reported that the Internet was the primary source of information, compared to 72%, who named television, and 41% who said newspapers were their source of choice. Among Internet users, we can observe a slight change in favor of the web that becomes more manifest among campaign Internet users,- those who reported that "they were online during the campaign season gathering information and exchanging views via email" (Rainie and Horrigan 2007, p.iii). Within this group, almost 50% indicated that the Internet was the main source of news for the 2006 campaign, while 59% of those said their main source was television. Rainie and Horrigan further

identify an elite group of users; those who actively use the two-way flow of information the Internet has to offer and either created their own content, commented on someone else's, or forwarded such content to a different person. Individuals belonging to this group, too, primarily still rely on television as their primary news source; 57% named television, as opposed to 43% who relied on the Internet as their primary source. However, these online activists have a higher interest in politics and use the web to gain additional insights or to get a different perspective, thus supporting the notion of the magnifying glass.

Table 2.4. Summary of Online Information Gathering of Voters in 2006

	All 2006 Voters	All Internet Users	Campaign Internet Users	Online political activists
Interest in Public Affairs and News				
Follow what's going on in public affairs	57	47	59	74
Read newspaper "yesterday"	46	38	43	47
Watched TV news "yesterday"	67	62	65	72
Got online news "yesterday"	54	31	68	68
Media that was Main Source of 2006 Campaign News				
Television	72	66	59	57
Newspaper	41	31	27	30
Internet	16	22	49	43
Political Online Activity				
Look for information about candidate positions	NA	29	52	64
Send or receive e-mail about candidates	NA	15	33	56
Check accuracy of claims made by/about candidates	NA	21	41	52
Watch video clips about campaign	NA	19	32	44
Look for candidate endorsements or ratings	NA	14	27	37
Sign up for campaign e-mails	NA	5	9	36
Contribute online to a campaign	NA	3	5	9
Online News Sources Used				
Websites of state/local government	NA	NA	28	34
Issue-oriented web sites	NA	NA	24	38
Blogs	NA	NA	20	33
Candidate websites	NA	NA	20	27

Table continues next page

Websites of international news organizations	NA	NA	20	28
Humor websites like The Onion	NA	NA	19	27
E-mail listservs	NA	NA	10	19
Alternative news websites	NA	NA	10	17
The Partisan Leanings of the Sites They Use				
Have no point of view	NA	NA	34	24
Share my point of view	NA	NA	28	40
Challenge my point of view	NA	NA	20	24
Major Reasons for Getting Political News Online				
Convenient	NA	NA	71	73
Get info nit available elsewhere	NA	NA	49	58
Don't get all I want from traditional media	NA	NA	41	52
Get perspectives from outside community	NA	NA	34	51
Get local perspectives	NA	NA	28	36

Note: Cell entries are percentages.
Source: Joint post-election survey by the Pew Internet & American Life Project and the Pew Research Center for the People and the Press, November 2006. n = 821 for campaign internet users in the sample including cell phone only users; n=742 for the landline only sample. Rainie and Horrigan. *Election 2006 Online*. 2007.

With respect to this research, I would like to pay particular attention to Internet users and the significance of broadband access; is there a difference between dial-up and broadband users when it comes to use of information outlets? Data from the Pew Internet and American Life Project allow for some answers: In late 2005, respondents were asked where they "got news yesterday" and classified into the general public, those who don't use the Internet, dial-up, and broadband users; the results are presented in Table 2.5. First, television's dominant role as a source of information prevails across these categories; non-Internet users and broadband users alike reported it to be their primary news outlet at 57%. This percentage was somewhat higher for dial-up users at 65%. The gap between dial-up and broadband users can be clearly seen in the case of the web as a news source: while 26% of dial-up users indicated that the web is their primary source, the number rises to 43% among broadband users. Dial-up users not only show higher numbers for television usage, but also for radio and newspaper consumption. In sum, it

seems that connection speed does indeed matter for Internet users, as broadband users are more likely to get news from the web than dial-up users.

Table 2.5. Where People Got News "Yesterday"

	All respondents	Non-internet users	Dial-up users	Broadband users
Local TV	59%	57%	65%	57%
National TV	47	43	50	49
Radio	44	34	52	49
Local paper	38	37	41	38
Internet	23	--	26	43
National paper	12	8	12	17

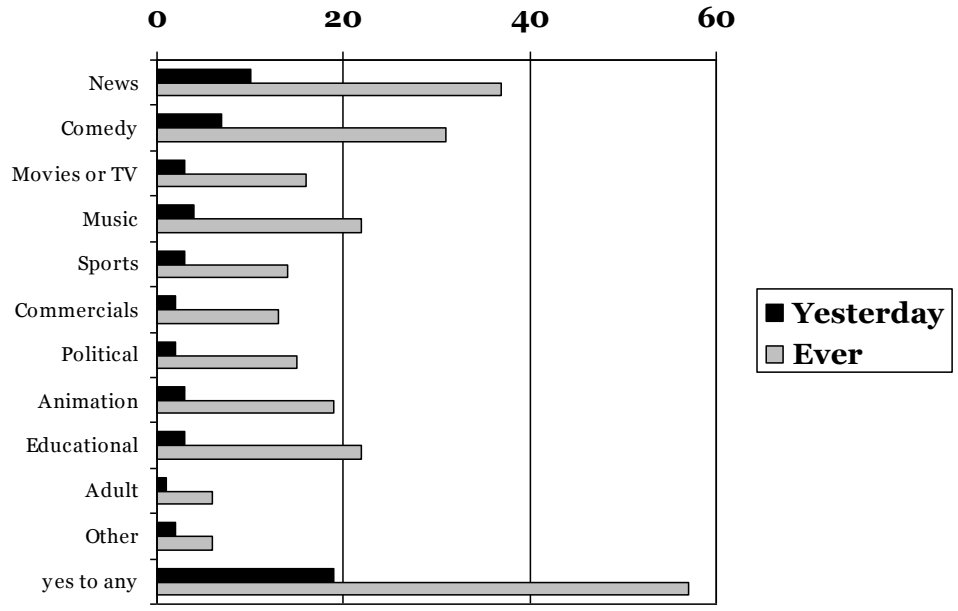
Source: Pew Internet and American Life Project December 2005 survey.

Content Revolution

Access to a broadband connection also opens up new dimensions of content for users. As I have mentioned before, the Internet sets itself apart from traditional media by offering not only a two-way flow of information, but also advanced content formats like streaming video. With the recent popularity of streaming video sites, also in the political realm, the web is offering popular new application that enables users to have an almost television like experience on their computers. Mary Madden reports that in 2007, some 57% of Internet users have watched online videos. More importantly, she finds that some 10% of adult internet users watched the news online as streaming video the day before, while 31% indicated they have ever watched the news online, making it the overall most popular category. These results are summarized in Figure 2.2. The data also show that political content is not watched as often as other content in an online

video format; only 2% indicated they watched political content the day before, with 15% of respondents saying they have watched a political online video at least once at some point. Categories like comedy, or sports seem to be more popular (Madden 2007). However, as access to broadband rises and online video becomes even more incorporated into the mainstream; these figures can be expected to rise, particularly during a presidential election campaign.

Figure 2.3 Online Video - What They Are Watching. Percentage of Adult Internet Users



Source: *Online Video*. Pew Internet & American Life Project 2007.

Moreover, Table 2.6 summarizes key demographic characteristics of Internet users who watch online video. We can observe a trend towards younger users, more likely to be male and educated. It seems that users who utilize the latest applications of the Internet to a degree resemble the web pioneers of the earlier days of the Internet in terms of demographic characteristics. Age always has had an impact on what one could label *tech-savvyness,* while this might also affect the impact of income – as a younger, educated generation might not have

reached their income potential (i.e. college students), the impact of the variable is somewhat more muted than the effect of age.

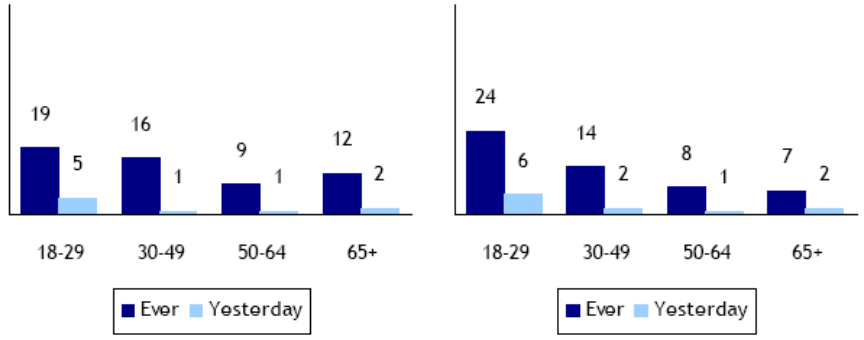
Table 2.6. Percentage of Internet users in Each Group Who Watch or Download Online Video	
Total	**57%**
Gender	
Men	63
Women	51
Age	
Ages 18-29	76
Ages 30-49	57
Ages 50-64	46
Ages 65+	39
Education	
HS Grad or less	46
Some College	62
College Grad	64
Income	
Less than $30K	52
$30K - $50K	63
$50K - $75K	63
$75K+	62
Source: Pew Internet & American Life Project Tracking Survey, February 15-March 7, 2007. n=1,492 adult Internet users.	

Among this group, men are more likely to watch online video, while there exists a pronounced effect of age – 18 to 20 year olds are the most likely to use online video, while older citizens, particularly those age 65 and older, are the least likely. This reinforces the notion of generational impact on web use: as times passes and new generations grow up, these age differences will vanish and contribute to the Internet becoming an integral part of everyday life in more

American households. In addition, if we investigate the relationship between age and specific content type like political online videos, it becomes evident that younger users are also more likely to view political content in particular than are older citizens; technological disengagement of older citizens seems to offset the higher political interest this age group usually portrays (see Figure 2.3).

Figure 2.4 Percentage of Users Who Watch Political Videos by Age

Left: Political Videos **Right: Sports Videos**



Source: Pew Internet & American Life Project Tracking Survey, February 15-March 7, 2007. n=1,492 adult Internet users.

Moreover, besides bringing an additional, television-like format to the web, streaming video sets itself apart from traditional sources of political communication by boasting a greater variety, and often more extreme opinions. While candidates' advertising on television still has to observe some boundaries even in the age of negative campaigning, online video often crosses these boundaries. Disgruntled voters with programming skills have found a way to express their opinions. During the 2004 presidential campaign, the web site *BushFlash.com* , created by a 34-year old web designer named Eric Blumrich featured anti-Bush *Flash*-videos and immediately found a wide audience: between March 2003 and October 2004, the site had 2.8 million unique visitors and was linked to by over 31,000 web sites (Witt 2004). In general, many of these web

sites are strongly partisan in content and have begun influencing the mainstream political debate. Patrick Hynes, who founded *CrushKerry.com* summarized the more extreme nature of this new phenomenon during the 2004 presidential election: "They can be harder-hitting. There is less of a threshold of civility and far less backlash regarding the consequences" (Hynes in Witt 2004, p.1). In a wider context, this phenomenon, just like blogs, constitutes a form of citizen journalism that allows individuals to bypass traditional media channels and to directly communicate with like-minded (or not so like-minded) citizens online. It also harbors the potential of significantly altering the tone of political debate.

New Kids on the Blog

Ever since the 2004 Presidential election, observers noticed the influence of blogs on political information gathering. Blogs are individual online diaries, enabling citizens to make their own journalism available to a potentially wide audience on the web. In topical width, blogs range from everything one never wanted to know about individuals' political rants to serious debates about all aspects of politics. Within the scope of this analysis, it will be imperative to assure a valid estimate of blog users and the impact on their information gathering habits and political knowledge. Individual blogs are unregulated and unedited, casting a potential shadow of credibility issues, which corresponds with the earlier observation that many users tend to gravitate around established names in the field of political information to ensure a certain amount of journalistic credibility. But beyond the havens for conspiracy theorists, blogs can provide additional sources of information that otherwise would not be read on established sites. In a research report on bloggers, Lehnhart and Fox (2006) of the Pew Internet & American Life Project investigated the Internet's new storytellers in greater detail. Their findings reinforce expectations of bloggers being the tip of the iceberg of the Internet community. They are not

only consumers of information, but also providers and commentators. Independent of established names, bloggers are a new breed of citizen journalists and activists who take advantage of the web's two-way flow of information, it is the forefront of a new breed of political involvement. As Lehnhart and Fox (2006) pointed out: "Bloggers are among the most enthusiastic communicators of the modern age, taking advantage of nearly every opportunity to communicate (p. 6). They found that 34% of bloggers view their blog as a form of journalism, while a majority, 65% do not. More importantly, their findings suggest that a staggering 72% of bloggers use the web to find information about politics, as compared to 58% of "ordinary" internet users. What is more, 45% of bloggers reported that they prefer to get this information from sources that lack a political point of view, while 24% like to gather their political news from sites that challenge their existing point of view, opposed to 18% who choose sources that "share their political viewpoint" (Lehnhart and Fox 2006).

Blogging as vital aspect of political campaigns and their coverage has been reinforced during the 2006 midterm elections, as is evident in the fact that during its election night coverage, CNN reported live from Café Tryst in Washington, D.C., where political bloggers gathered to update their journals as events progressed during election night. With the 2008 Presidential campaign picking up steam, bloggers have already moved center stage on a variety of occasions: Daren Briscoe wrote in Newsweek about the new influence of bloggers on the political pulse of the campaign. He pointed out a new political web monitor, *techpresident.com*, who is employing a new method to measure presidential candidates' popularity: counting how many individuals added candidates as "friends" on their *My Space* sites (Briscoe, 2007). What seems to be a peculiar alternative to traditional polls does illustrate, however, that that the web and some of its more recent applications continue to influence a savvy elite of potential voters.

Moreover, Bloggers themselves regard blogs as a highly credible media source, even surpassing traditional media; bloggers seems to value the additional depth of information on a particular issue (Johnson and Kaye 2004).

Political Interest and Online Activity

Past surveys indicate that Internet users tended to be politically more active than their unconnected counterparts, particularly during the early days of the web. Data from 1996 suggest that 91.9% of Internet users were registered voters, and approximately 60% participated in the most recent local, legislative, and national election (Graphic, Visualization & Usability Center 1996). The trend of political activity of Internet users was reinforced during the 2000 presidential election, boasting less impressive numbers, however, as the web continued to become mainstream. The majority of users, 55.7%, reported that they voted in 1999, and a still striking 88% indicated that they plan to vote in the 2000 presidential election.

The Gallup Organization reported in 2000 that sixty percent of respondents indicated that they followed the news about the presidential campaign on the Internet. Another 52% reported that they used the medium to find information about the candidates' issue positions or backgrounds. Those are fairly striking numbers, but we need to consider that they do not take advantage of the interactive features the Internet has to offer. When it comes to activities that do take advantage of those features, we are presented with a different pattern: Only 10% of respondents stated that they sent e-mail to one of the presidential candidates supporting or criticizing their positions. An even smaller portion, 5%, reported that they took advantage of chat rooms to discuss the latest developments. Finally, only four percent made a donation online. What becomes evident from these data is that the Internet seemed to be catching up when it

comes to replacing or supplementing traditional media outlets as a service of political information, but people still seem to hesitate to take advantage of the interactive features the Internet has to offer in the year 2000. Additional evidence is offered by Daron Shaw (2002). He suggests that during the 2000 presidential campaign it was the candidate web sites themselves who failed to offer more interactive content: His analysis of survey data derived from a national sample of Internet users who are registered voters supports the above notion.

Additionally, the *Pew Internet & American Life Project* reports that there exists an increasing tendency to use the Internet to connect with online communities. At the end of 2001, some 84% of Internet users have contacted an online group. This exceeds the number of those users who use the medium to get news online, searched for health information, or shopped online. (Pew Internet & American Life, 2001).

Most interestingly, approximately the same percentage think the Internet is the most reliable and accurate medium as think that television or newspapers are the most accurate and reliable. Given the fact that the credibility and trustworthiness of information received from the Internet in general tends to be questionable, this result comes as a surprise. One possible explanation can be found in the fact that a majority of users sticks to trusted names and sites when online. *Cnn.com, The Wall Street Journal,* or *the New York Times* online are some of the prime news outlets for the online community. On the other hand, an equally high number of respondents, 22%, did find none of these three media reliable and accurate. These results can be interpreted as a signal of general distrust against all media outlets by a certain segment of the population.

Table 2.7. Political Knowledge – Then and Now

	1989	2007	Diff
Percent who could name…	%	%	%
The current vice president	74	69	-5
Their state's governor	74	66	-8
The president of Russia*	47	36	-11
Percent who know…			
America has a trade deficit	81	68	-13
The party controlling the House	68	76	+8
The Chief Justice is conservative	30	37	+7
Percent who could identify			
Tom Foley/Nancy Pelosi	14	49	+35
Richard Cheney/Robert Gates	13	21	+8
John Poindexter/Scooter Libby ^	60	29	-31

Source: The Pew Research Center for the People and the Press. *What Americans Know: 1989-2007.*
*President of Russia trend from February 1994
^John Poindexter trend from April 1990 at the conclusion of his trial for involvement in the Iran-Contra affair while in the Reagan administration from 1985-1986.

With the web as source of political information in various formats on the rise, it seems a legitimate question whether general effects on political knowledge in general are observable. The Pew Research Center for the People and the Press (2007) has been monitoring American's political knowledge and its relationship to various news sources over time and presents results from 1989 to 2007. It becomes evident that despite the many information revolutions that have taken place during that time, from cable news to the web, respondents' political knowledge seems to have changed only marginally. Overall, the Pew Research Center reports, differences are only observable within certain categories, as shown in the differences between 1989 and 2007 in Table 2.7; however, one should keep in mind a likely overlap between categories.

Noteworthy are certainly two substantial differences in opposite directions: Among individuals who were able to identify Tom Foley and Nancy Pelosi: Whereas only 14% of respondents correctly identified Tom Foley in 1998, 49% identified Nancy Pelosi in 2005, a 35% increase. At the same time, while 60% identified John Poindexter in 1989, only 29% did so in 2007 in the case of Scooter Libby, a 31% decrease. I assume these differences to be rooted within the specific category, likely a result of what could be labeled the nature of the times, pertaining to issue salience at the time, which might also be true to a lesser degree for the other categories. Overall, there exists no observable trend in one or another direction; one cannot argue based on these data that the American electorate today knows more than in 1989 because of the information revolution and the Internet. This again points to the *Megascope* theory; the fact that only a certain subset of the population utilizes the web to gain additional insights; the particularly interested use it as their topical magnifying glass.

Table 2 8 summarizes various news formats and political knowledge (categorized as "high", "moderate," and "low") of their regular audience. The national average places 35% of Americans in the "high" category, which means respondents who fall into this category have correctly answered a minimum of 15 out of 23 factual questions. The "moderate" category requires 10 to 14 correct answers, while respondents who answered nine or less questions correctly were summarized in the "low" category.

Above average levels of political knowledge are demonstrated by the audience of Comedy Central's *Daily Show* and *Colbert Report,* as well as by readers of national newspaper websites with more than half of their audience ranking in the "high" category. Interestingly, readers of a daily newspaper scored lower than readers of online newspaper websites; their audience has about 10% less individuals with high political knowledge, who seem to have

"moved" into the "moderate" category. Network morning and evening shows, on the other hand, have then least knowledgeable audience.

Table 2.8. Knowledge Levels by News Source

	Knowledge Level		
	High	**Mod**	**Low**
	%	**%**	**%**
Nationwide	35	31	34
Among the regular audience of…			
Daily Show/Colbert Report	54	25	21
Major newspaper websites	54	26	20
NewsHour with Jim Lehrer	53	19	28
O' Reilly Factor	51	32	17
National Public Radio	51	27	22
Rush Limbaugh's radio show	50	29	21
News magazines	48	27	25
TV news websites	44	33	23
Daily newspaper	43	31	26
CNN	41	30	29
News from Google, Yahoo, etc	41	35	24
Network evening news	38	33	29
Online news discussion blogs	37	26	37
Local TV news	35	33	32
Fox News Channel	35	30	35
Network morning shows	34	36	30

Source: The Pew Research Center for the People and the Press. What Americans Know: 1989-2007. 2007.

How to read this table:
Nationwide, 35% of Americans score in the high knowledge category (answering at least 15 of 23 questions correctly). Among regular viewers of the Daily Show and Colbert Report, 54% scored in the high knowledge category.

Rather interesting seems the low score of readers of online news discussion blogs; a mere 37% in the top category does not quite resemble the picture of the well-informed political junkie seeking out news from blogs.

Table 2.9 Knowledge Levels and Demographic Determinants

	Knowledge Level		
	High	**Medium**	**Low**
	%	%	%
Total	35	31	34
High school or less	20	31	49
Some college	34	35	31
College graduate	63	26	11
Men	45	29	26
Women	25	33	42
18-29	15	29	56
30-49	35	32	33
50-64	47	31	22
65+	34	29	28
White	37	32	31
Black	24	32	44
Less than $20,000	14	26	60
$20,000-$29,999	19	36	45
$30,000-$49,999	35	34	31
$50,000-$74,999	39	33	28
$75,000-$99,999	46	35	19
$100,000+	55	29	16
Republicans	36	38	26
Democrats	37	32	31
Independents	38	26	36
Northeast	39	34	27
South	32	29	39
Midwest	34	34	32
West	37	28	35

Source: The Pew Research Center for the People & the Press. What Americans Know: 1989-2007

In terms of demographics, the Pew Research Center Study also presents some rather interesting findings: there is little doubt that education remains one of the prime predictors of

political knowledge; however changes over time are observable: college graduates today are less knowledgeable than they were in 1989 with a 6% decline among the most knowledgeable; the same holds true for respondents with a high school education with a decline of 11%..

Overall, however, the continued impact of standard predictors of political knowledge is confirmed by the Pew findings and displayed in Table 2.8: Levels of political knowledge rise with formal education, they rise with age, and they rise with income. Moreover, the Pew data suggest that Whites on average have higher levels of political knowledge than Blacks Particularly powerful predictors are education and income: College graduates are more than three times as likely to qualify for the "high" category than are individuals with a high school education or less. Among poor people with a an income under $20,000, only 14% rank in the "high" category, while 55% of those earning more than $100,000 do. These data are a powerful reminder that political knowledge is governed by strong predictors

Furthermore, the study also highlights the relationship between political information, knowledge, and participation. Among those with high political knowledge 90% are registered to vote, 69% indicate they enjoy keeping up with the news a lot, and 73% in this group disagree with the notion that most issues in Washington don't affect them personally. A survey of Table 2.9 shows that among those with low levels of knowledge, we are presented with the opposite picture: 53% indicate they are registered to vote, only 16% say that they enjoy keeping up with the news, and 59% disagree that most issues in Washington affect them personally. These data help us gain a better understanding between the relationships between political information, the news and its different formats, political knowledge and participation. It sets a stage for subsequent, multivariate analysis to identify an independent effect of the Internet as a source of political information on political knowledge, as well as an independent effect on voter turnout.

Table 2.10 Political Engagement, News Interest, and Knowledge Levels

	Knowledge Level		
	High	**Med**	**Low**
	%	**%**	**%**
Registered to vote			
Yes	90	77	53
No/DK	10	23	47
Most issues in Washington don't affect me personally			
Agree	24	23	30
Disagree	73	75	59
Don't know	3	2	11
Enjoy keeping up with the news…			
A lot	69	33	16
Some	25	45	32
Not much	4	15	32
Not at all	1	6	18
Don't know	1	1	2

Source: The Pew Research Center for the People & the Press. What Americans Know: 1989-2007

Chapter 3 Data and Methodology

Trends in the expanding uses of the Internet as a political medium were tracked in Chapter 2, which outlined the web's growth pattern over the past two years and described the expansion of its scope, from blogging to online videos. This chapter introduces the data and methodology for the subsequent quantitative analysis. This section describes the data sources, the statistical models, and the estimation techniques I use to examine the effects of politically-oriented Internet usage on political knowledge and on the likelihood of voting in elections.

Data for Statistical Models

The data for the knowledge models, the voter turnout models, and the education-interaction models are provided by the University of Michigan's *National Election Studies* (NES) 2000 and 2004 panel studies[1], as well as by the Pew Research Center for the People and the Press' 2004 Political Communications Study[2]. The 2000 NES survey that I will utilize is based on 1,807 pre-election and 1,555 post-election completions. Both face-to-face and telephone interview techniques were employed. The National Election Studies surveys traditionally focus on political behavior, electoral participation, and public opinion regarding political issues and figures. The 2004 *knowledge model* draws on data from the 2004 National Election Study, derived from 1,212 face-to-face interviews in the pre-election study, 1,066 of which later provided a face-to-face interview in the post-election study. This model will then be retested using data from the Pew Research Center for the People and the Press' 2004 Political Communications Study, which was conducted between December 2003 and January 2004. The survey is based on telephone interviews of a national sample of 1,503 adults age 18 or older.

The NES Knowledge Models

Using the 2000 and 2004 NES datasets, I test for an independent effect of the Internet as a political medium on respondents' levels of political knowledge, while controlling for standard

[1] The 2000 and 2004 American National Election Studies were conducted by the Center for Political Studies at the University of Michigan and made available through the Inter-University Consortium for Political and Social Research. Neither the collectors nor the distributors of the data are responsible for the analyses or interpretations presented here.

[2] The 2004 Pew Political Communication Study was conducted by Princeton Research Associates and made available through the Pew Center for the People and the Press. Neither the collectors nor the distributors of the data are responsible for the analyses or interpretations presented here.

demographic variables and use of traditional media outlets. The identical statistical model for the years of 2000 and 2004 is described below:

$$\mathbf{Y}(Knowledge) = ß_1 + ß_2 Internet + ß_3 Television + ß_4 Newspaper + ß_5 Radio + ß_6 Interest + ß_7 Party + ß_8 Edu + ß_9 Sex + ß_{10} Age + ß_{11} Income + ß_{12} Race + e$$

The best measurement of political knowledge has been subject to much debate and primarily revolves around the use of factual knowledge questions versus the use of the interviewer-evaluation of the respondent's political knowledge, particularly in face-to-face interview situations (Zaller 1985, 1992). The use of factual knowledge scales has been widespread; Levendusky and Jackman (2003) in their study of political knowledge measurement acknowledge it to be the most popular within the discipline (next to interviewer-evaluation). However, questions that gauge respondents' knowledge of basic facts are not immune to certain drawbacks. Researchers question whether certain factual knowledge items should be assigned weights, and debate which facts are most crucial to assessing knowledge: "Should knowing the Chief Justice of the Supreme Court count more or less than knowing which party controlled the House of Representatives before the most recent election?" (p. 6).

Another possible measure of political knowledge relies on the interviewer's assessment of a respondent's political knowledge measured using a five-point scale. Although there is an apparent concern that these evaluations might be biased, Zaller points out that "at least in surveys involving face-to face interviews and considerable political content, they perform extremely well […] A fear in relying upon such interviewer ratings is that they might be systematically biased in favor of higher-status persons, notably whites and males. However, I checked carefully for evidence of such bias and was able to find none."(Zaller 1985, quoted in Zaller 1992, p.338). As Levendusky and Jackman (2003) point out, the interviewer-rating measure is "arguably the

strongest single-item indicator" (p. 6). For this research, I will employ the interviewer evaluation variable in the 2000 and 2004 NES *knowledge models* and the education-interaction models of knowledge. The variable is asked and coded as follows:

> **The Respondent's general level of information about politics and public affairs seemed:**
>
> 1. Very High
> 2. Fairly High
> 3. Average
> 4. Fairly Low
> 5. Very Low

The independent variables measure use of the Internet, alternative media as a source of political information, and personal interest in politics. It is important to control for alternative media and interest in politics in order to identify an independent effect of the Internet on the dependent variable. The main independent variable, *Internet*, measures whether the respondent saw election information on the Internet. It is a dichotomous variable, with 1 = yes, and 0 = no. I expect respondents' knowledge of politics to increase if election information has been gained on the Internet; hence I expect a positive sign for β_2. The second variable measures whether respondents have seen ads for candidates on television, where 1 = yes, and 0 = no. Television as a traditional source of news has been a common way for people to access political information. Therefore, I expect a positive relationship between this variable and political knowledge and thus a positive sign for β_3. The third variable, *newspaper*, assesses the number of days that a respondent reads a daily newspaper. This variable is measured on a 0 to 7 scale, where 0 means the respondent never reads a daily paper and 7 means he or she reads the paper every day. It is worded *How many days in the past week did you read a daily newspaper?* I expect that the more people read a newspaper, the greater their knowledge of politics, and will therefore expect a positive coefficient, β_5. The fourth variable measures exposure to radio; the

question asks if a respondent listened to political talk radio: I expect a positive sign for β_5. The fifth variable measures whether the respondent paid attention to the election campaign on an ordinal scale with 5 = very much interested, 3 = somewhat interested, and 1 = not much interested. I expect that interest in the campaign will be positively associated with knowledge; therefore β_6 should have a positive sign.

Furthermore, I control for party identification and standard demographics such as education, gender, age, income, and race. As demonstrated in the previous chapter, these variables have been identified as potential factors in determining the likelihood of a person having access to the Internet and making use of it politically; therefore controlling for them will help separate out the effects of use of the Internet. More detailed information on the datasets and variables employed here can be found in Appendix A. To estimate the NES knowledge models, I will use OLS regression analysis[3].

Pew Knowledge Model

The 2004 Pew knowledge model follows the same layout as the NES knowledge models, but differs in measurement of the dependent variable and the main independent variables. The Pew knowledge model uses data from the Pew Research Center for the People and the Press' 2004 Political Communications Study, conducted during the 2004 presidential campaign when several Democrats were competing for the nomination to challenge Republican incumbent George W. Bush. Besides more detailed media consumption variables with refined question wording, the study also offers two alternative measures of political knowledge specifically

[3] The model was also estimated using *Ordered Probit*, yielding identical results.

tailored to the ongoing 2004 presidential campaign: one that relies on respondents' self-reported knowledge, and one that measures respondents' actual knowledge of facts. The questions are:

1) Now I want to ask you a few questions about some things that have been in the news about the presidential campaign recently. Not everyone will have heard of them. As I read each item, tell me if you have heard A LOT about it, SOMETHING about it, or NEVER HEARD about it.

a. Al Gore's endorsement of Howard Dean
b. Howard Dean's comment about wanting to win the votes of "guys with Confederate flags in their pickup trucks"

RESPONSE CATEGORIES:
1 Heard a lot
2 Heard something
3 Never heard about it
9 Don't know/Refused

2) Do you happen to know which of the presidential candidates
a. Served as an Army General *(correct=Wesley Clark)*
b. Served as the Majority Leader in the House of Representatives (*correct=Richard Gephardt)*

RESPONSE CATEGORIES:
1 Correct name given
2 Other, incorrect
9 Don't know

I will use a factual knowledge scale based on these questions: The Al Gore and Howard Dean variables for this purpose have been recoded into a dichotomous variable, combining the "heard a lot" and "heard something" categories into one and were combined into a scale together with the Wesley Clark and Richard Gephardt questions, thus yielding a five-category dependent variable. Respondents who answered "don't know" were recoded into the negative identification category. The scale reliability coefficient (α) for this 4-item knowledge scale is 0.7110. The main independent variable in this model again is *Internet*, here measured and coded as follows:

Have you gone online to get news or information about the 2004 elections? [IF YES, ASK: How often do you go online to get news about the elections… more than once

a day, every day, three-to-five days per week, one-to-two days per week, or less often?

1 Yes, More than once a day
2 Yes, every day
3 Yes, 3-5 days per week
4 Yes, 1-2 days per week
5 Yes, Less often
6 No/never
9 Don't know/Refused

The media variables also differ from the previous NES knowledge models; the television variable in the Pew model is measured by asking if a respondent has seen any debates on T.V.; it is a more specific question wording compared to the NES version. *Radio* in the Pew model is measured by specifically asking about listening to *National Public Radio (NPR),* as opposed to referring to political talk radio in the NES version (see Appendix A for a full documentation of variable measurement and coding). Other dependent variables include age, education, race, political interest, party identification, gender, and income. I will use OLS regression to estimate the model.[4]

$$\mathbf{Y}(Knowledge) = ß_1 + ß_2 Internet + ß_3 TVDebate + ß_4 Nwsp + ß_5 NPR + ß_6 Interest + ß_7 Party + ß_8 Edu + ß_9 Sex + ß_{10} Age + ß_{11} Income + ß_{12} Race + e$$

Education-Interaction Models of Knowledge

The education-interaction models of knowledge test for an effect of education on the relationship between the Internet and political knowledge. I expect to find that a respondent's higher educational level will exercise a significant conditioning effect on how the Internet affects political knowledge. Not only do the higher educated express higher levels of political

[4] The model was also estimated using *Ordered Probit*, yielding identical results.

knowledge; they also are more likely to have access to the Internet and use this access in political ways. I hence introduce an interaction term, *Internet*Education*.

NES Education-Interaction Models of Knowledge. The statistical models for the 2000 and 2004 NES education-interaction models are as follows and will be estimated using OLS regression:

$$Y(\textit{Knowledge}) = ß_1 + ß_2\textit{Internet} + ß_3\textit{Television} + ß_4\textit{Newspaper} + ß_5\textit{Radio} + ß_6\textit{Interest} + ß_7\textit{Party} + ß_8\textit{Edu} + ß_9\textit{Sex} + ß_{10}\textit{Age} + ß_{11}\textit{Income} + ß_{12}\textit{Race} + ß_{13}\textit{Internet*Education} + e$$

Identical to the 2000 and 2004 NES knowledge models, *Knowledge* is measured by interviewer-rating as described above; the explanatory variables are also identical, with the exception of the introduction of the interaction term, *Internet*Education*. I expect a positive coefficient for $ß_{13}$.

Pew Education-Interaction Model of Knowledge. Similar to the above NES education-interaction models of knowledge, the *Internet*Education* interaction term is also introduced to the above Pew knowledge model. Accordingly, the model stated below will be estimated using OLS regression analysis. Also in this model, I expect the coefficient for the interaction term, $ß_{13}$, to be positive.

$$\mathbf{Y}(\textit{Knowledge}) = ß_1 + ß_2\textit{Internet} + ß_3\textit{TVDebate} + ß_4\textit{Newspaper} + ß_5\textit{NPR} + ß_6\textit{Interest} + ß_7\textit{Party} + ß_8\textit{Edu} + ß_9\textit{Sex} + ß_{10}\textit{Age} + ß_{11}\textit{Income} + ß_{12}\textit{Race} + ß_{13}\textit{Internet*Education} + e$$

NES Voter Turnout Models

To identify whether political information over the Internet has an independent effect on a respondent's likelihood to vote, I will employ the 2000 and 2004 NES datasets described above. The dependent variable in these models, electoral participation, is measured by a simple *yes, did vote/no, did not vote* question and thus produces a dichotomous variable. Accordingly, the NES participation models will be estimated using Logit. They are identical for 2000 and 2004 and are stated below:

$$P[Yi=1] = \exp(X\beta)$$

$$P[yi=1] = \exp(\beta_1 + \beta_2 Internet + \beta_3 Television + \beta_4 Newspaper + \beta_5 Radio + \beta_6 Interest + \beta_7 Party + \beta_8 Edu + \beta_9 Sex + \beta_{10} Age + \beta_{11} Income + \beta_{12} Race + e)$$

Logit is estimated by Maximum Likelihood Estimation, as opposed to linear regression models, which are estimated by employing Ordinary Least Squares (Aldrich and Nelson, 1984, p. 51). Researchers argue that ordinal-level variables, and particularly dichotomous variables, should not be estimated with techniques designed for interval-level variables, since regression of an ordinal variable introduces bias, which renders the application of this practice "unacceptable" (Long 1997, p. 115). The effects of such an inappropriate application of method would be misleading results due to biased estimates. As Long points out, the statistical remedy for the dilemma of estimating ordinal variable models was introduced to the social sciences by McKelvey and Zavoina (1975). The method is known in the natural sciences as the *grouped continuous model*, the *parallel regression model*, or the *proportional odds model* (Long 1997, p.116). Hence, *Logit* is the method of choice to estimate the voter turnout models, which feature a dichotomous dependent variable. However, I chose to use OLS regression to estimate the NES and Pew knowledge models, which feature a five-category dependent variable, since interpretation of OLS results is more straightforward than interpretation of an *Ordered Probit* analysis with a five-category dependent variable. For a discussion of appropriate estimation technique see e.g. Aldrich and Knudde (1975), who point out that "the bias in OLS when applied to an ordinal variable will be less serious the greater the number of ordinal categories" (p. 599). Furthermore, all models estimated using OLS here were also computed using Ordered Probit and there were no significant differences in the results.

Pew Voter Turnout Model

In the Pew voter turnout model, the dependent variable is measured differently, as is the key independent variable, Internet: Specifically, at the time the survey was conducted, the campaign for the Democratic presidential nomination was in full swing, while the Republicans already had their candidate - President Bush. Thus, this survey in some instances focuses on issues pertaining to Democrats, as is evident from the first set of knowledge questions described above. Accordingly, in the 2004 Pew voter turnout model, electoral participation is measured by asking respondents' likelihood to vote, but in a primary rather than a general election; it captures a respondent's own expectation of electoral participation in the upcoming Democratic primary: The variable is initially coded as follows:

> **If there is a Democratic primary election or caucus in your state next year, how likely is it that you will vote? Are you very likely, somewhat likely, not too likely, or not at all likely to vote in the Democratic primaries?**
>
> 1 Very likely
> 2 Somewhat likely
> 3 Not too likely
> 4 Not at all likely
> 5 No primary
> 6 Not sure if eligible/Not eligible to participate
> 9 Don't know/Refused

For this model, I recode the variable into a dichotomous one: The "very likely, "somewhat likely", and "not too likely" categories were combined into one, since they do not definitely rule out participation in the Primary; furthermore the terms "somewhat" and "very" and not too likely" might have a slightly different meaning with respondents, whereas "not at all likely", "no primary", not eligible and "don't know" portray a very high degree of certainty that no

participation will take place[5]. This question is asked of all respondents, not just Democrats. However, in this research it will only be estimated for Democratic respondents (those who identify themselves with the Democratic party as captured by the standard party identification variable employed by the survey), since registered Republicans are generally unlikely to vote in Democratic primaries, even in open primaries. In fact, Republican identifiers in this survey were not at all likely to vote in the Democratic primary. The independent variables in this model are identical to the Pew knowledge model. I will use Logit to estimate this model for Democrats:

$$\mathbf{Y}(\text{Vote}) = ß_1 + ß_2 Internet + ß_3 TVDebate + ß_4 Newspaper + ß_5 NPR + ß_6 Interest + ß_7 Edu + ß_8 Sex + ß_9 Age + ß_{10} Income + ß_{11} Race + e$$

Education-Interaction Models of Voter Turnout

Similar to the education-interaction models of knowledge, the education-interaction models of voter turnout test for an effect of education on the relationship between the Internet and electoral participation. I expect to find that a respondent's higher educational level will exercise a significant conditioning effect on the likelihood of electoral participation. Highly educated people are more likely to go to the polls on Election Day and to have used the Internet to seek out additional information about the election. I expect that Internet usage will have an even greater positive effect on voter turnout among the highly educated than on the less educated since I assume that Internet usage is most pronounced among the educated. I thus introduce the same interaction term, *Internet*Education* into the NES and Pew voter turnout models as well.

[5] This model was also estimated with the original variable coding using OLS regression analysis and yielded similar results.

NES Education-Interaction Models of Voter Turnout. Accordingly, the statistical models for the 2000 and 2004 NES education-interaction models of voter turnout are as follows and estimated using Logit.

$$P[Yi=1] = \exp(X\beta)$$

$$P[yi=1] = \exp(\beta_1 + \beta_2 Internet + \beta_3 Television + \beta_4 Newspaper + \beta_5 Radio + \beta_6 Interest + \beta_7 Party + \beta_8 Edu + \beta_9 Sex + \beta_{10} Age + \beta_{11} Income + \beta_{12} Race + \beta_{13} Internet*Education + e)$$

Following the NES voter turnout models, *Vote* is the dependent dichotomous variable, coded 0 if the respondent did not vote in the past election, and coded 1 if otherwise. Explanatory variables are identical in these models, with the exception of the introduction of the interaction term; I expect its coefficient, β_{13}, to be positive.

Pew Education-Interaction Model of Voter Turnout. Accordingly, the Pew education-interaction model of voter turnout follows the Pew voter turnout model and is estimated only for Democrats using OLS regression; I expect the interaction term's coefficient, β_{12}, to be positive in this model:

$$\mathbf{Y}(\text{Vote}) = \beta_1 + \beta_2 Internet + \beta_3 TVDebate + \beta_4 Newspaper + \beta_5 NPR + \beta_6 Interest + \beta_7 Sex + \beta_8 Age + \beta_9 Edu + \beta_{10} Income + \beta_{11} Race + \beta_{12} Internet*Education + e$$

This chapter laid out the models, data sources and estimation techniques I use to test for the effects of the Internet on political knowledge and electoral participation. Chapter four will present the results for the political knowledge models, the electoral participation models, and the corresponding education-interaction models.

Chapter 4 Knowledge, Participation and Education-Interaction Models

In this research I hypothesize about the impact of the Internet on political knowledge and electoral participation. Does the omnipresent Internet have an effect on citizens' levels of political knowledge? Are those who receive election information from the web more likely to turn out on Election Day? I test these questions statistically: first the Internet's impact on political knowledge (knowledge models and education-interaction models of knowledge), and second the impact on electoral participation (turnout models and education-interaction models of voter turnout).

First, I discuss the results for the 2000 and 2004 knowledge and education-interaction models of knowledge using National Election Studies data. In these two models, the dependent variable, knowledge, was measured by the interviewer evaluation variable included in both datasets. It is a different approach compared to the measures employed in the models using data from the Pew Center for the People & the Press, which I will discuss subsequently. Using multiple measures of political knowledge—from the general measure in the 2000 and 2004 NES models to the political knowledge scale based on factual questions employed by the Pew models-- allows for a more rigid test of the Internet's impact on political knowledge. In general, Internet usage--also measured differently between the NES and Pew models--does show a consistently positive effect on political knowledge across all models. I did not find evidence supporting a conditioning effect of education; nor is there support for an independent effect of the Internet on electoral participation.

Political Knowledge and Education-Interaction Models: 2000 NES Data

The 2000 NES knowledge model supports the notion of an independent effect of the Internet on political knowledge. The *Internet* variable ("Have you seen any information about this election campaign on the Internet/Web?") has a significant, positive relationship with the

dependent variable, political knowledge. However, the coefficient for Internet is very small, suggesting that the relative impact of the Internet on political knowledge in this model is limited: Using the Internet for election campaign information only leads to a .26 point increase on the 5 point scale of political knowledge (assuming all other explanatory variables at their mean). In other words, having seen election information on the Internet (rather than not having seen any) only leads to a very slight increase in a respondent's political knowledge.

Table 4.1. 2000 NES Knowledge Model OLS Regression Results

Independent Variables	**Coefficient**	**t**
Internet	.2634382***	4.30
Newspaper	.0191892	1.70
Television	.0106189	0.59
Radio	. 0464873**	3.01
Interest	.2107388***	8.98
Education	.18034***	8.43
Age	.0163492***	7.04
Income	.0086829	1.11
Gender	.1967128**	3.26
Race	.0073776	0.09
PID	.0056254	0.37

Source: 2000 National Election Studies
N = 808
R^2=0.3781
*p< .05
**p< .01
***p<.001.

The media control variables, newspaper and television, show no significant effect in this model. Radio, however, is significant at the .01 level; listening to talk radio increases a respondent's political knowledge. Basic predictors political interest and formal education both exercise a significant effect on the dependent variable. Increases in a respondent's political interest and education yield higher political knowledge.

Table 4.1 presents the results of the OLS regression analysis. Among the demographic variables, age is a strong predictor of political knowledge; older age predicts higher political knowledge. Gender at the same time also exercises a noteworthy effect on political knowledge: with a positive coefficient, male respondents in this model are more likely to possess higher political knowledge. Income, race, and party identification show no significant effect in this model.

2000 NES Education-Interaction Model of Knowledge. Introducing the Internet-Education interaction variable into the model did not yield statistical support for the education-interaction hypothesis; the variable is not statistically significant. The results of the 2000 NES knowledge education-interaction model are summarized in table 4.2.

Table 4.2 2000 NES Knowledge Education-Interaction Model OLS Regression Results

Independent Variables	**Coefficient**	**t**
Internet	.1492881	0.72
Newspaper	.0192485	1.73
Television	.0201993	1.14
Radio	.0373893*	2.43
Interest	.3268367***	10.29
Education	.1839486***	2.07
Age	.0177185***	7.77
Income	.0063506	0.82
Gender	.2041527**	3.02
Race	.0494635	0.62
PID	.0040163	0.26
Internet*Education	.0031396	0.31

Source: 2000 National Election Studies
N = 807
R^2 = 0.3957
*p< .05
**p< .01
***p<.001

Consistent with the results of the previous knowledge model two media variables, newspaper and television, show no significant effect on political knowledge, while talk radio is significant at the .05 level. Political Interest, formal education and age are significant at the .001 level; older citizens are more likely to possess higher knowledge as are the educated and respondents who in general enjoy keeping up with the political campaign. Gender here is significant at the .01 level; men again are more likely to exhibit higher levels of information than women.

Overall, the 2000 NES models provide support for a general, across-the-board effect of the Internet on political knowledge; however, the effect of the variable is very weak. The education-interaction model seems to reject the education-interaction hypothesis; the interaction term is insignificant. This means that education exercises no conditioning effect on the Internet's impact on political knowledge.

Political Knowledge and Education-Interaction Models: 2004 NES Data

Retesting the NES Knowledge model with NES data from the 2004 presidential election survey (Table 4.3) reconfirms the basic notion: Internet usage is statistically significant and has an independent effect on respondents' levels of political knowledge. But similar to the 2000 NES model, this effect is very weak as can be seen from the unstandardized coefficient presented in Table 4.3. A one-unit increase in the Internet variable yields a 0.05 unit increase in the 5 point scale of political knowledge. Three noteworthy differences exist in the 2004 NES model compared to the year 2000 NES model: First, the significant impact of newspaper reading in 2004. Unlike in 2000, the variable is statistically significant at the .01 level, it displays a positive relationship with the dependent variable: more frequent newspaper reading leads to higher political knowledge, an effect that was not observable in the 2000 NES model. Measurement of

the variable is identical in the 2000 and 2004 NES datasets employed here, so differences in question wording or coding cannot account for the variable's significance in 2004 (or its insignificance in 2000). Second, listening to talk radio is not significant in the year 2004 as it was in 2000. As is the case with the newspaper variable, radio is coded identically in 2000 and 2004, so we can observe differences in the impact of the media variables on respondents' levels of political knowledge. Third, in 2004 party identification is a significant predictor of political knowledge at the .01 level. In this model, respondents who identify themselves with the Republican Party tend to have higher levels of political knowledge than Democrats. Similar to the newspaper and radio variables, the coding of partisan identification is identical in both models.

Table 4.3 2004 NES Knowledge Model OLS Regression Results

Independent Variables	**Coefficient**	**t**
Internet	.0550415**	3.08
Newspaper	.0265804*	2.15
Television	.0152121	1.18
Radio	.032427	1.86
Interest	.1808988***	7.07
Education	.1831806***	7.52
Age	.0074615**	2.99
Income	.0043692	0.74
Gender	.1530176*	2.21
Race	.0424777	0.55
PID	.0467444*	2.19

Source: 2004 National Election Studies
N=686
$R^2 = 0.3210$
*p<.01
**p<.05
***p<.001

In both years, however, the most widely employed media outlet, television, remains insignificant. The average American television viewer seems not to have any political knowledge

to gain from the tube. As in the year 2000, political interest and education remain strong, significant predictors of political knowledge, as do age and gender. Older and male Americans tend to have higher levels of political knowledge. Income and race also remain insignificant in the 2004 model.

2004 NES Education-Interaction Model of Knowledge. Similar to the 2000 NES model, introducing the education-interaction term into this model did not yield any significant results in support of the education-interaction hypothesis in this context. The variable, Internet*Education, is insignificant. The results for the 2004 knowledge education-interaction model are presented in table 4.4. The age variable in this model is significant at the .01 level. A one unit change in age (being one year older) predicts a .007 increase in political knowledge. Gender, too, remains statistically significant at the .05 level; men in this model are more likely to possess higher political knowledge. Political Interest in this model is significant at the .001 level; a one unit increase in a respondent's political interest yields a .18 point increase in the political knowledge variable. Party identification again is significant in the education-interaction model. Finally, newspaper reading, too, is significant in this model at the .05 level; frequency of newspaper reading is positively associated with political knowledge. Overall, however, the results from the 2000 education-interaction model of knowledge are confirmed, no evidence is provided for a conditioning effect of education on the Internet's impact on political knowledge. Furthermore, the above results derived from NES data are expected to provide a rather conservative estimate of the web's impact since non-users are eliminated from the analysis.

Table 4.4. 2004 NES Knowledge Education Interaction Model OLS Regression Results		
Independent Variables	**Coefficient**	**t**
Internet	.06653	1.23
Newspaper	.026619*****	2.15
Television	.0152483	1.18
Radio	.03248	1.87
Interest	.1808975*******	6.56
Education	.1768257*******	4.78
Age	.0074343******	2.97
Income	.0044232	0.75
Gender	.15314088*****	2.50
Race	.042519	0.55
PID	.0465788*	2.18
Internet*Education	.0025177	0.23
Source: 2004 National Election Studies N=686 $R^2 = 0.3211$ *p< .05 **p< .01 ***p<.001		

Political Knowledge Models: 2004 Pew Center Data

In addition to data from the National Election Studies for the 2000 and 2004 presidential elections, I retest the effect of the Internet on political knowledge using data from the 2004 Pew Center for the People and the Press Political Communication Study. With the Pew models, I employ different variable measurements: The primary independent variable, *Internet*, in these models is measured by asking respondents: "Have you gone online to get news or information about the 2004 elections? [IF YES] How often do you go online to get news about the elections… more than once a day, every day, three-to-five days per week, one-to-two days per week, or less often?" Thus, in the Pew models, Internet is measured by frequency, a measure that differs from the dichotomous measure employed in the NES models.

The dependent variable, political knowledge, here is measured using the four-item

knowledge scale described in chapter 3. The scale is built on factual knowledge questions; this can add additional validity to the previous results, where political knowledge was measured using the interviewer evaluation. The Pew data offer two sets of specific measurements. The first set of questions deals with knowledge of two well-publicized campaign incidents. Respondents were asked if they heard about Al Gore's endorsement of Howard Dean, and whether they heard of Howard Dean's comment about wanting to win the votes of "guys with Confederate flags in their pickup trucks". Both questions have their background in the 2004 presidential campaign: Al Gore endorsed Howard Dean for the Democratic presidential nomination for the 2004 election on December 9, 2003. It constituted a significant boost for Dean at the time; among other things Gore highlighted his opinion that Howard Dean was the only Democratic candidate who judged the Iraq war correctly (Cable News Network, 2003). A bit earlier, in November 2003, Howard Dean himself raised eyebrows by commenting on the "need to regain disaffected Southern voters by speaking to the *guys with Confederate flags in their pickup trucks*. It was inevitable that he would be excoriated by rivals looking for leverage in their debate on Tuesday, and he proved less than skillful in defending himself" (The New York Times, 2003). A second set of questions deals with knowledge of two candidates' professional backgrounds. Respondents were asked if they knew which of the presidential candidates served as (1) an Army general (Wesley Clark) and (2) the Majority Leader in the House of Representatives (Richard Gephardt). For this model, I use a factual knowledge scale based on these four questions. The Al Gore and Howard Dean variables were recoded into dichotomous variables, combining the "heard a lot" and "heard something" categories into one so that respondents are coded as either having heard about these incidents or not. Then, the Gore and Dean questions were combined into a scale together with the Wesley Clark and Richard

Gephardt questions, thus yielding a five-category dependent variable ranging from 0 (knew none of the four facts) to 4 (knew all four facts). Respondents who answered "don't know" were recoded into the negative identification category for each question.

Table 4.5 summarizes the results of the 2004 Pew knowledge model. The Internet variable is statistically significant at the .001 level, confirming an independent effect of Internet usage on political knowledge. More frequent consultation of the web to gain information about the campaign yields higher levels of political information; a one unit change of the Internet variable yields a .058 unit increase in the 4 point scale of political knowledge.

Table 4.5. 2004 Pew Knowledge Model OLS Regression Results

Independent Variables	**Coefficient**	**t**
Internet	.0587879***	7.96
TV Debate	.1057808**	5.64
NPR	.0203156**	2.83
Newspaper	.026785***	3.56
Interest	.0577632***	6.87
Education	.0451091***	7.44
Age	.0660451***	10.66
Income	.0125221**	3.46
Gender	.1242905***	7.07
PID	.0056842	0.64
Race	.0420843	1.78

Source: Pew Center for the People & the Press 2004 Political Communication Study
$R^2 = 0.4528$
N=629
*p< .05
**p<.01
***p<.001

At the same time all other media variables in this model are significant as well: Having seen a televised debate, reading a daily newspaper, and listening to NPR are positively related to the dependent variable. In addition, the dependent variable, political knowledge, seems more

substantive; it measures respondents' factual political knowledge, rather than using the interviewer's evaluation. Overall, the model performs better, too, based on the R^2, the model explains 45% of the variance, which is higher than in the NES models (32%).

However, the difference in measurement of the media variables between the Pew and NES surveys should be noted: the questions asked about using the media to gain information about the campaign. Specifically, this is important to consider for the newspaper variable: The NES surveys simply ask about the frequency of newspaper reading, without any reference to the campaign, while the Pew variable asks if the respondent received information about the campaign from the newspaper (see Appendix A for a detailed description). In other words, with the NES measurement, a respondent who reads the sports page seven days a week is treated the same as a respondent who reads the political pages every day. The measurement differences for television and radio are less pronounced: while the NES survey asks about listening to political talk radio, the Pew survey makes a specific reference to *NPR*. Nevertheless, the radio variable in the Pew model is significant, while it is insignificant in both NES models.

The demographic variables in this model are significant as well: levels of formal education, age, income, and gender are significant, positive predictors of political knowledge in this model: Older, more educated and wealthy males seem to have higher political knowledge. Age, education level, and male gender also were positively related to political knowledge in the NES data analysis, but the significant effect of income differentiates the Pew data analysis from the 2004 NES model. In neither analysis do I find evidence of a racial divide; the variable is insignificant. Also partisan identification shows no significant relationship with the dependent variable; it does not seem to matter if respondents consider themselves to be Democrats or Republicans, a finding that is consistent with the previous analysis.

Table 4.6 presents Betas for the Pew knowledge model; illustrating a relative greater impact of Internet compared to other media variables, including television. However, as before, it must be pointed out that the overall impact is still a weak one.

Table 4.6. 2004 Pew Knowledge Mod el OLS Betas

Independent Variables	**Beta**
Internet	.193369
TV Debate	.1240038
NPR**	.0662968
Newspaper***	.0877705
Interest	.2260638***
Education	.1863936***
Age	.2520366***
Income	.0881088**
Gender	.1725447***
PID	.0548952
Race	.0555505

Source: Pew Center for the People & the Press 2004 Political Communication Study
$R^2 = 0.4528$
N=629
*p< .05
**p<.01
***p<.001

2004 Pew Education-Interaction Model of Knowledge. Similar to the NES knowledge models, an interaction term, Internet*Education, was added to this model to test the education-interaction hypothesis. The model, summarized in table 4.7 reconfirms the previous findings; the interaction term is not significant. Internet usage has no effect on levels of political knowledge, regardless of the level of education. Like in the previous Pew knowledge model, media variables and demographic predictors are significant: Having seen a debate on T.V., listening to *NPR*, and reading about the campaign in the newspaper all show a positive, significant relationship with the dependent variable, knowledge.

Table 4.7. 2004 Pew Education-Interaction Model for Knowledge OLS Regression Results

Independent Variables	Unst. Coefficient	t
Internet	.0370626	1.29
TV Debate	.1055937**	5.63
NPR	.0199225**	2.77
Newspaper	.0271674***	3.60
Interest	.0578649***	6.88
Education	.0676462*	2.30
Age	.0659804***	10.64
Income	.0124727**	3.45
Gender	.1237574***	7.03
PID	.0056842	0.66
Race	.0420843	1.78
Edu*Int	.00407	.078

Source: Pew Center for the People & the Press 2004 Political Communication Study
N=629
R^2 = 0.4531
*p< .05
**p<.01
***p<.001

Moreover, age, gender, and income, too, are positively related to political knowledge at a significant level in this model. As in the previous NES knowledge models, I do not find evidence for the education-interaction hypothesis.

Electoral Participation and Education-Interaction Models

The previous section presented the results of the political knowledge models, which confirmed a significant impact of Internet usage on political knowledge across all models. The second research question is whether the Internet also has a significant and independent impact on electoral participation. This section will present the results from the electoral participation models; I used NES data for the years 2000 and 2004, with a dichotomous dependent variable

(respondent voted or not); while I employ Pew Center data for the year 2006 with a differently measured dependent variable: here, it is operationalized as a respondent's (perceived) likelihood to vote in the Democratic primary. Overall, I find no evidence for a direct impact of the Internet on electoral participation.

NES Participation Models

The 2000 NES model estimates the possible effect of the Internet on electoral participation to identify whether political information over the Internet has an independent effect on a respondent's likelihood to vote. Does the increase in information richness available online directly translate into an increase in electoral participation? The 2000 NES model presents no such evidence, as the model performs poorly overall.

Table 4.8. 2000 NES Electoral Participation Model Logit Results

Independent Variables	Coefficient	z
Internet	.1703417	0.32
Television	.0022641	0.01
Newspaper	.0574344	0.47
Radio	.1617951	1.17
Interest	1.238066**	3.19
Education	.178097	0.97
Age	.0112099	0.55
Income	.0329318	0.46
Gender	.3605454	0.66
PID	.2040017	1.44

Source: 2000 National Election Studies
N=442
Pseudo $R^2 = 0.1528$
*p< .05
**p< .01
***p<.001

The only significant predictor of participation in this model is political interest, showing a positive relationship with electoral participation. All other variables remain insignificant. The

Logit results are summarized in table 4.8, while the predicted probabilities for the only significant variable, political interest, are presented in table 4.9.

Table 4.9. 2000 NES Electoral Participation Model Predicted Probabilities	
Independent Variable: Political Interest	
Interest = 1 (highest)	
Pr(y=0|x) NO, Did not vote	0.0037
Pr (y=1|x) YES Did Vote	0.9963
Interest = 5 (lowest)	
Pr(y=0|x) NO, Did not vote	0.6570
Pr (y=1|x) YES Did Vote	0.3430
Source: 2004 National Election Studies **Note:** Predicted Probabilities for dependent variable *Knowledge* for selected independent variable *Interest* with all other variables at mean at 95% Confidence intervals by delta method	

Although the predicted probabilities for interest at a maximum are very high at 99%, it tells us about the impact of political interest on electoral participation, a relationship that hardly surprises, but the variable remains isolated in this model; none of the other demographic predictors, nor the media variables, and in particular the Internet, show any significant effect. A possible explanation could be an intervening effect of political interest between the demographic variables and turnout.

2000 NES Education-Interaction Model of Electoral Participation. Similarly, testing for the education-interaction hypothesis by adding the *Internet*Education* term did not yield any significant results. The interaction term is insignificant, therefore rejecting the education-interaction hypothesis for the 2000 NES electoral participation model. The results for the education-interaction model are presented in table 4.10. Political interest in this model significantly predicts turnout; it is the only variable that is statistically significant.

Table 4.10 2000 NES Education-Interaction Model of Electoral Participation Logit Results		
Independent Variables	**Coefficient**	**z**
Internet	.2744045	0.32
Television	.12854	0.49
Newspaper	.0352612	0.47
Radio	.171765	1.44
Interest	.8162368***	4.75
Education	.5189603	1.58
Age	.0349225	2.18
Income	.0610714	1.05
Gender	.007673	0.02
PID	.2553489	2.66
Internet*Education	.0270778	0.34
Source: 2000 National Election Studies N=442 Pseudo $R^2 = 0.3118$ *p< .05 **p< .01 ***p<.001		

2004 NES Participation Model

Retesting the above model using NES data from the 2004 presidential election (table 4.11) confirms the above results showing that Internet usage does not affect voter turnout. Aside from political interest only one variable exercises a statistically significant effect on the dependent variable: listening to the radio is positively related to electoral participation at a marginally significant level. The radio variable in this model, measured by asking if respondents listen to political talk radio shows, was insignificant in the 2000 NES participation model and also shows no significant effect in the Pew electoral participation model presented below (where it is measured differently by asking about *NPR*, rather than talk radio). Thus the effect of radio on voter turnout, while positive here, appears to be weak and sporadic at best.

Table 4.11. 2004 NES Electoral Participation Model Logit Results		
Independent Variables	**Coefficient**	**z**
Internet	.004574	0.05
Television	.0733604	0.68
Newspaper	.038533	0.53
Radio	.2003659*	1.97
Interest***	.6020961***	3.82
Education	.2622652	1.88
Age	.0109643	0.83
Income	.0534623	1.49
Gender	.0427043	0.11
Race	.0188734	1.77
PID	.1178736	1.22
Source: 2004 National Election Studies N=352 Pseudo $R^2 = 0.228$ *p< .05 **p< .01 ***p<.001		

Table 4.12. 2004 NES Electoral Participation Model Predicted Probabilities	
Independent Variable: Political Interest	
Interest = 1 (highest)	
Pr(y=0|x) NO, Did not vote	0.0380
Pr (y=1|x) YES Did Vote	0.9620
Interest = 5 (lowest)	
Pr(y=0|x) NO, Did not vote	0.3050
Pr (y=1|x) YES Did Vote	0.6950
Source: 2004 National Election Studies **Note:** Predicted Probabilities for dependent variable *Knowledge* for selected independent variable *Interest* with all other variables at mean at 95% Confidence intervals by delta method	

The predicted probabilities for electoral participation (table 4.12) yield similarly high results as in the analysis of the 2000 NES data: 96% for the politically most interested. This percentage drops to some 30% for respondents with the least political interest; in other words, 70% of those were not likely to have voted.

2004 NES Education-Interaction Model of Electoral Participation. Similar to the 2000 NES participation models, an interaction term, *Internet*Education*, was added to the 2004 model as well. Also in this model, the interaction term is not significant (see table 4.13), reconfirming the results of the 2000 NES education-interaction model of electoral participation. Identical to the 2004 NES participation model, the two significant variables are political interest and radio. In sum, the results of both the 2000 and 2004 electoral participation models show no indication of an Internet effect on participation; the only significant media variable is radio in the 2004 model. Also the demographic predictors in both models do not show any significant effect on electoral participation.

Table 4.13. 2004 NES Education-Interaction Model of Electoral Participation Logit Results

Independent Variables	**Coefficient**	**z**
Internet	.0361496	0.12
Television	.0702328	0.50
Newspaper	.0394594	0.54
Radio	.1994609*	1.96
Interest	.5938819***	3.70
Education	.2881152	1.28
Age	.010978	0.83
Income	.0532152	1.48
Gender	.0631622	0.16
Race	.0188818	1.77
PID	.1534063	1.65
Internet*Education	.0100839	.015

Source: 2004 National Election Studies
N=352
Pseudo $R^2 = 0.228$
*p< .05
**p< .01
***p<.001

Furthermore, the education-interaction models presented here clearly reject any notion of a significant effect of the interaction term. This is not surprising given the constituent variables' insignificance in the previous participation models.

2004 Pew Electoral Participation and Education-Interaction Models

The 2004 electoral participation model using data from the 2004 Pew Political Communication Study yields similar results, summarized in table 4.14. In this model, the dependent variable is operationalized by measuring respondents' perceived likelihood to vote in the Democratic Primary; the variable used here is dichotomous as described in chapter 3. This question was asked of all respondents; there was no similar question for Republican identifiers due to the nature of the 2004 presidential campaign, in which incumbent President Bush was virtually unopposed as the Republican party's candidate. Accordingly, this model was estimated only for Democratic identifiers.

Table 4.14. 2004 Pew Center Electoral Participation Model Logit Results (Democrats Only)

Independent Variables	**Coefficient**	**z**
Internet	.0266379	0.28
TV Debate	.0619415	0.28
NPR	.0374935	0.40
Newspaper	.0891801	0.91
Interest	.2958866**	3.19
Education	.071112	0.95
Age	.0949531	1.24
Gender	.5554899*	2.41
Race	.5638641	1.79
Income	.0006943	1.46

Source: 2004 Pew Center for the People and the Press Political Communication Study
N=629
Pseudo R^2 = 0.0482
*p< .05
**p< .01
***p<.001

The Internet variable again is not statistically significant. The significant predictors in this model are political interest and gender; they show a positive relationship with the dependent variable. Older Democrats are more likely to participate in the Primary, as are male Democrats. This finding cannot be observed for the general public in the NES electoral participation models. Education is not significant in this model, possibly due to an intervening effect by the Interest variable.

2004 Pew Education-Interaction Model of Participation. Fitting the education-interaction model by introducing an Internet-education interaction term did not yield any significant results in this model either, with the exception of political interest and gender (see table 4.15).

Table 4.15. 2004 Pew Center Education-Interaction Model for Electoral Participation Logit Results (Democrats Only)

Independent Variables	**Coefficient**	**z**
Internet	.1014136	0.42
TV Debate	.0631029	0.29
NPR	.0431135	0.46
Newspaper	.0841518	0.86
Interest	.2917386**	3.13
Education	.0550531	0.24
Age	.0923366	1.20
Gender	.5446912*	2.36
Race	.5590437	1.77
Income	.001111	0.02
Education*Internet	.0393098	0.58

Source: 2004 Pew Center for the People and the Press Political Communication Study
N=629
Pseudo R^2 = 0.0038
*p< .05
**p< .01
***p<.001

Radio (listening to *NPR)*, in this model remains insignificant; this particular result from the 2004 NES model is not confirmed by the Pew data. At the same time, age is no longer significant in the education-interaction model, while gender is significant at the .05 level.

Conclusion

With its rapid rise, the web has manifested itself within the mainstream of American households; some 70% of Americans today are online, either at home, at work, or other locations; they surf at different connection speeds, some go online occasionally, while others frequent the information highway several times a day. Political information on the web today is omnipresent, from the Democratic and Republican *YouTube* video debates of 2007, to numerous political blogs and the political pages of the well known information outlets like *CNN* or the *Washington Post*. What is more, buzzwords like *Web 2.0* lately have tried to highlight new applications the web today can deliver, from online video to advanced social networking. Is this the advent of the new information paradise, democracy's Garden of Eden?

At the same time, the levels of political knowledge of the American electorate have not followed the trend of rising levels of formal education over the past decades and have remained comparatively low. This can be a threat to the quality of democracy, a form of government that relies on the involvement of citizens who, ideally, know something about government and politics. Furthermore, levels of electoral participation in the United States are low compared to other industrialized democracies. Can the information superhighway and its many manifestations help create a better informed, more politically engaged public over the years?

The Internet is the latest big media revolution; its rise can be compared to that of television in the 1960s. Television also has become an integral part of American life, but it has

failed to increase knowledge about political affairs over time, nor has it had any effect on electoral participation. The Internet is different; its omnipotent possibilities allow for applications and uses that television simply cannot deliver; it has opened up new dimensions in communication to connect individuals at never before seen levels of convenience and cost. The question then is, what does it actually contribute?

This research confirms the Internet's general impact on political knowledge, demonstrating a consistently significant relationship between Internet usage and political knowledge across years and across statistical models. However, this effect is very weak. It suggests that in the aggregate, the Internet does contribute a small share to a better informed public. This lends some support to the romantic view that the Internet over time will alter democratic debate and improve democratic quality through producing democratically fitter citizens. At the same time, these findings constitute a blow to my original hypothesis of the exclusive benefit for the educated; the original assumption that the Internet enhances levels of political information primarily among the highly educated is not supported by this research. Instead, the statistical insignificance of the education-interaction terms in both the NES and Pew models suggests that the Web's impact on political knowledge is consistent across levels of educational achievement. The fact that the Internet's impact can be observed across the board also testifies to the Web's maturation. During its infancy, it was predominantly used by an educated elite segment of society, but this no longer accurately describes today's reality.

At the same time, I could not find any evidence in support of an independent effect of the Internet on electoral participation. This finding calls for more in-depth inquiry in the future, to explore the Internet's potential influence on participation in ways not captured by this study. Using electoral participation as a dependent variable is a hard measure of political participation;

however, it does not capture other forms of political participation. The Internet greatly reduces the individual cost of many political activities: forwarding e-mails and signing online petitions, for example, does require significantly less effort than writing an old-fashioned letter to a Member of Congress or to the editor of a newspaper; the threshold is much lower at the click of a mouse. Politicians and political parties, too, have been quick to adapt to the Internet's various possibilities, online fundraising and grassroots organizing being the most prominent examples, fostering additional inclusion of the public in political affairs. Accordingly, one could then ask if those who use the Internet for these purposes are more likely to turn out on Election Day compared to those who otherwise would satisfy the same theoretical criteria underlying electoral participation, net of the Internet.

An important factor in this context is political interest. Future research should be concerned with the variable's impact within this scenario. Political interest is a strong predictor of both political knowledge and participation, which was confirmed by this research. The question that arises from this context then is a question of causality: Does the Internet stimulate additional political interest (by, let's say, sparking an unassuming individual's interest through "accidental" exposure to a *YouTube* debate), and does this increased interest then translate into additional political action (or knowledge)? Furthermore, where do people who state in a survey that they enjoy keeping up with political affairs get that interest from and does the Internet help them satisfy their curiosity beyond the means previously available? Answers to these questions will require theoretical clarifications for measurement; clearly, asking respondents if they saw election information on the web is a measure that does no longer adequately capture the more complex nature of Internet usage, particularly in a political context. Future research will concern itself with disentangling the various types of users, accounting for the different behaviors of

online citizens. This also includes accounting for the two-way flow of information; blogging, for example, is an active use of the web, taking advantage of the second direction offered. In that context, it will be necessary to clarify to what degree political participation contributes to some uses of the web versus others (more passive ones). This will help our overall understanding of the Internet's role in the political communication process; every other medium so far simply did not offer the capabilities available online, so investigating its impact requires asking new questions.

As these new questions are being asked, new aspects are being added: some claim that the Internet's role in politics can be compared to the open source movement in software development, a concept that Matthew Hindman labeled "open source politics" (Hindman 2007, p. 183) – a concept describing new, previously unknown patterns of political participation. Open source politics then not only encompasses additional information being available to citizens, but describes an overall, substantial change of the process, from digital grassroots organizing to fundraising.

Still, beyond the hype, there are losers, too, rooted in the digital divide (or what is left of it): obviously, those without computers and internet access cannot take part in the information revolution, and they still comprise some 30% of Americans. Furthermore, we are witnessing a generational change as well: older citizens are less likely to use a computer and take advantage of what the Internet has to offer. As time passes, this effect will disappear; for the next generation, the Internet will be part of their lives also in old age, just as television or a newspaper is today. So not only are we still in the middle of an ever-changing technological revolution comparable only to the change from agrarian society to industrialization, but also a generational change that will amplify the technological one. What is more, as the cost of accessing the web

continues to decrease, the economic factors are likely to lose significance in the future as well. Even today, Internet access is available to anyone who wants it through public libraries. This research presented empirically observable implications on only one aspect of this big picture.

References

Abramowitz, Alan I. 1995. "It's Abortion, Stupid: Policy Voting in the 1992 Presidential Election" *The Journal of Politics 57:176-186.*

Aldrich, John H. and Forrest D. Nelson. 1984. *Linear Probability, Logit, and Probit Models*. Newbury Park: Sage

Alvarez, Michael R. and Jonathan Nagler. 1998. "Economics, Entitlements, and Social Issues: Voter Choice in the 1996 Presidential Election" *American Journal of Political Science* 42:1349-1363.

Anderson, David M. and Mike Cornfield, eds.. 2003. The Civic Web: Online Politics and Democratic Values. Lanham, Md: Rowman & Littlefield

Bargh, John A. and Katelyn Y.A. McKenna. 2004. "The Internet and Social Life". *Annual Review of Psychology 55*: 573-590.

Beiler, David. 2000. "The Body Politic Registers a Protest. Jesse Ventura's Stunning Victory for Governor of Minnesota in 1998." In *Campaigns & Elections. Contemporary Case Studies*, ed. Michael A. Bailey, Ronald A. Faucheux, Paul S. Herrnson, and Clyde Wilcox. Washington, D.C.: Congressional Quarterly Press.

Bimber, Bruce.1998. "The Internet and political transformation: populism, community, and accelerated pluralism." *Polity, Vol. 31, 1998: pp. 133-160*

Bimber, Bruce. 1999. "Data on the Internet Growth in the US." *Government and Politics on the Net Project*. University of California, Santa Barbara. [Online]. Available: http://www.polsci.ucsb.edu/faculty/bimber/research/diffusion.html

Bimber, Bruce, and Richard Davis.2003. *Campaigning Online*. Oxford: Oxford University Press.

Browning, Graeme. 1996. *Electronic Democracy: Using the Internet to Influence American Politics.* ed. Daniel J. Weitzner. Wilton: Pemberton

Cable News Network. 2003. *Al Gore endorses Howard Dean* http://www.cnn.com/2003/ALLPOLITICS/12/09/elec04.prez.gore.dean

Campbell, Angus, Philip E. Converse, Warren E. Miller, and Donald E. Stokes. 1960. *The American Voter*. Chicago: The University of Chicago Press.

Carmines, Edward G. and James A. Stimson. 1980. "The Two Faces of Issue Voting." *The American Political Science Review* 74: 78-91.

Casey, Chris. 1996. *The Hill on the Net: Congress Enters the Information Age.* Boston: AP Professional.

Coleman, Stevphen. 2001. "The Transformation of Citizenship." In *New Media and Politics,* ed. Barrie Axford and Richard Huggins. Thousand Oaks, Ca: Sage

Cone, Edward. 2007. "Election 2008: The Internet Campaign". *CIO Insight*. http://www.cioinsight.com/article2/0,1397,2167566,00.asp (11 24 2007)

Consumer Electronics Association. 2007. *CEA Research Finds 72% of U.S. Adults Have Broadband Access*. Press Release. URL: http://www.ce.org/print/Press/CurrentNews/press_release_detail.asp?id=11319

Cornfield, Michael and Harrison Rainie**.** 2002. *Untuned keyboards: online campaigners, citizens, and portals in the 2002 elections.* Washington, D.C. : Pew Internet & American Life Project : Institute for Politics, Democracy, and the Internet

Dahlgren, Peter. 2001. "The Transformation of Democracy?" In *New Media and Politics*, ed. Barrie Axford and Richard Huggins. Thousand Oaks, Ca: Sage

Davis, Richard. 1999. *The Web of Politics:The Internet's Impact on the American Political System.* New York: Oxford

Dayan, Daniel; Katz, Elihu. 1992. Media Events. The Live Broadcasting of History. Cambridge, MA.: Harvard University Press

Delli Carpini, Michael X., and Scott Keeter. 1993. "Measuring Political Knowledge: Putting First Things First." *American Journal of Political Science* 37:1179-1206.

Delli Carpini, Michael X., and Scott Keeter. 1996. *What Americans Know About Politics and Why I Matters.* New Haven and London: Yale University Press.

Emmer, Martin, and, Gerhard Vowe.2003. "How the Internet Affects Political Communication of Individuals - A Longitudinal Survey of Onliners and Offliners" Paper presented at the annual meeting of the International Communication Association, Marriott Hotel, San Diego, CA, 2003-05-27.

Feldmann, Linda. 2007 "Web 2.0 meets Campaign 2008 Podcasts and videos are among the features found on the interactive websites of US presidential candidates." *The Christian Science Monitor*, May 16, 2007.

Graber, Doris. 1996."The 'New' Media and Politics: What Does the Future Hold?", *Political Science and Politics* Vol. 29, No. 1. (Mar., 1996), pp. 33-36.

Graphic, Visualization & Usability Center at Georgia tech University. 1996. *Fifth World Wide Web User Survey*. [Online]. Available: http://www.gvu.gatech.edu/gvu/user_surveys/survey-04-1996

Galston, William A. 2001. "Political Knowledge, Political Engagement, and Civic Education." *Annual Review of Political Science* 4:217-34.

Gomez, Brad T and J. Mathew Wilson. 2001. "Political Sophistication and Economic Voting in the American Electorate: A Theory of Heterogeneous Attribution". *American Journal of Political Science* , Vol. 45 No. 4 (October 2001): 899-914.

Hamilton, Alexander. 1788. "On the Adoption of the Constitution" by Alexander Hamilton. Delivered June 24, 1788. Available online: http://www.nationalcenter.org/AlexanderHamilton.html

Hill, Kevin A. and John E. Hughes. 1998. *Cyberpolitics: Citizen Activism in the Age of the Internet.* Lanham: Rowman and Littlefield.

Hindman, Matthew. 2007."Open Source Politics Reconsidered: Emerging Patterns in Online Political Participation".*Governance and Information Technology*. Viktor Mayer-Schönberger and David Lazer, eds.Cambridge, MA.: MIT Press.

Hira, Nadira A. 2004."Howard Dean Gives Spirited Endorsement To John KerryVermont upstart's support for former rival marks step forward for party unity". *MTV.com*. March 25, 2004. http://www.mtv.com/news/articles/1485975/20040325/id_0.jhtml (November 20, 2007)

Hoffman, D.L. and T.P. Novak. 1998. *Bridging the Digital Divide: The Impact of Race on Computer Access and Internet.* Vanderbilt University. Typescript

Horrigan, John, B. “Online News. 2006”. Research Report. *The Pew Internet and American Life Project*. Washington, D.C.. http://www.pewinternet.org/pdfs/PIP_News.and.Broadband.pdf

Iyengar, Shanto; Kinder, Donald R. 1987. *News that Matter*. Chicago: University of Chicago Press.

Janda, Kenneth; Berry, Jeffrey M.; and Jerry Goldman. 2002. *The Challenge of Democracy*, 7th Edition. Boston and New York: Houghton Mifflin.

Johnson, Thomas J. and Barbara K. Kaye. 2002. “Webelievability: A Path Model Examining How Convenience and Reliance Predict Online Credibility.” *Journalism and Mass Communication Quarterly* 79:619-42.

Johnson, Thomas J. and Barbara K. Kaye. 2004. “Wag the Blog: How Reliance on Traditional Media and the Internet Influence Credibility Perceptions of Weblogs Among Blog Users.” *Journalism and Mass Communication Quarterly* 81:622-642.

Justice, Glen. 2003. “Dean Outpaces Competitors In Fund-Raising and Spending”. *The New York Times*, October 16, 2003. Online.

Key, Valdimer Orlando. 1966. The *Responsible Electorate: Rationality in Presidential Voting, 1936-1960.* Cambridge: Harvard University Press.

Klapper, Joseph T. 1960. *The Effects of Mass Communication*. Glenoce, Il.: Free Press.

Krosnick, Jon A.; Kinder, Donald R. 1990. “Altering the Foundations of Support for the President Through Priming”. *American Political Science Review* 84: 497-512.

Krosnick, Jon A.; Brannon, L.A. 1993. “The Impact of the Gulf war on the Ingredients of Presidential Evaluations: Multidimensional Effects of Political Involvement.” *American Political Science Review*, 87: 963-975.

Kurtz, Douglas. 1996. *Hot Air: All Talk, All the Time*. New York: Times Books.

Dreyer Lassen, David. 2005. "The Effect of Information on Voter Turnout. Evidence from Natural Experiment." *American Journal of Political Science 49*: 103-118.

Lehnhart, Amanda and Susannah Fox. 2006. "Bloggers. A portrait of the internet's new Storytellers". Washington, D.C. Research Report, *Pew Internet & American Life Project*.

Levendusky, Matthew S. and Simon D. Jackman. 2003. *Reconsidering the Measurement of Political Knowledge.* Working Paper. Online: http://www.stanford.edu/class/polisci353/2004spring/reading/levendusky final.pdf

Lodge, Milton and Ruth Hamill. 1986. "A Partisan Schema for Political Information Processing". *American Political Science Review* 80: 505-520.

Madden, Mary. 2007. *Online Video. 57% of internet users have watched videos online and most of them share what they find with others*. Research Report. Washington, D.C.: Pew Internet & American Life Project.

Prior, Markus. 2005. "News vs. Entertainment: How Increasing Media Choice Widens Gaps in Political Knowledge and Turnout". *American Journal of Political Science 49*: 577-592.

Prior, Markus, and Arthur Lupia. *Political Knowledge Under Respondent-Friendly Conditions (or What Citizens Know depends on How You Ask Them)*. Paper presented at the Annual Meeting of the American Political Science Association.

Luskin, Robert C, 1990. "Explaining Political Sophistication." *Political Behavior* 12:331-361.

Long, Scott J. 1997. "Regression Models for Categorical and Limited Dependent Variables." *Advanced Quantitative Techniques in the Social Sciences, Volume 7*. Sage Publications.

Lupia, Arthur and Mathew D. McCubbins. 1998. *The Democratic Dilemma. Can Citizens Learn What They Need to Know?* Cambridge: Cambridge University Press.

Martin, Steven P. and John P. Robinson.2007. "The Income Digital Divide: Trends and Predictions for Levels of Internet Use." *Social Problems* 54:1–22.

McKelvey, Richard D. and William Zavoina. 1975. "A Statistical Model for the Analysis of ordinal Level Dependent Variables." *Journal of Mathematical Sociology* 4: 103-20.

Miller, Warren E. and J. Merril Shanks. 1996. *The New American Voter*. Cambridge, MA.: Harvard University Press.

Morris, Dick. 1999. *Vote.com*. Los Angeles: Renaissance

Noble, Phil. 1998. *Phil Noble's Guide to the Internet and Politics: An Introduction to Using the Internet in Political Campaigns.* Washington DC: Campaigns & Elections

Perloff, Richard M. 1998. Political *Communication, Politics, Press and Public in America.* Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Pettey, Gary R. 1983. *Those Who Want, Get: The Impact on Political Knowledge of Media Reliance Under Conditions of Political Interest.* Paper presented at the Annual Meeting of the Association for Education in Journalism and Mass Communication (66th, Corvallis, OR, August 6-9, 1983).

Pew Internet and American Life Project. 2001. *90 Million Have Participated in Online Groups*. [Online]. Available: http://www.pewinternet.org/releases/release.asp?id=31

Prieger, James E. 2006. "Is There Equal Availability in the Broadband Internet Access Market?" *Economic Inquiry* 44:346-363.

Rash, Jr., Wayne. 1997. *Politics on the Nets: Wiring the Political Process*. New York: W.H. Freeman

Rheingold, H. 1993. *The Virtual Community*. Massachusetts: Addison-Wesley Publishing Company.

Rosenthal,. Elisabeth. 2003. The 2004 Campaign: The Dean Campaign; Political Challenge 2.0: Make a Virtual Army a Reality. December 21, 2003. http://query.nytimes.com/gst/fullpage.html?res=9C0DE1D7123FF932A15751C1A9659C8B63&sec=&spon=&partner=permalink&exprod=permalink (November 20, 2007)

Romano, Andrew. 2007. “Hey Barack, Answer Me!” *Newsweek*, Jul 23, 2007.

Shaw, Daron R. 2002. “How the Bush and Gore Campaigns Conceptualized and Used the Internet in 2000”. *Journal of Political Marketing* 1:39-65.

Schaffer, Stephen, D. 1981. “A Multivariate Explanation of Decreasing Turnout in Presidential Elections.” *American Journal of Political Science* 25: 68-95.

Scheufele, Dietram A. 2001. “Democracy for Some?” in Communications in U.S. Elections. New Agendas. Eds. Roderick P Hart and Daron R. Shaw. Lamham, MD.: Rowman & Littlefield.

Sniderman, Paul M, Richard A. Brody, and Philip E. Tetlock. 1991. Reasoning and Choice. Explorations in Political Psychology. Cambridge: Cambridge University Press.

Tedesco, John C. 2004. “Changing the Channel: Use of the Internet for Communicating About Politics.” *Handbook of Political Communication Research*. New Jersey: Routledge.

Tolbert, Caroline J. and Ramona S. McNeal.2003. “Unraveling the Effects of the Internet on Political Participation?” Political Research Quarterly*, Vol. 56, No. 2, 175-185*

The New York Times. 2003. *Dr. Dean and the Pickup Truck*.

Trippi, J. 2004. *The Revolution Will Not be Televised: Democracy, the Internet, and the overthrow of everything.* New York, NY: Harper Collins.

Vargas, Jose Antonio. 2007. “For Candidates, Web Is Power And Poison. Clinton, in Particular, Draws Equal Parts Cash and Vitriol.” *Washington Post*, Thursday, November 8, 2007; Page A01

Wilson, Kenneth R., Jennifer S. Wallin, and Christa Reiser. 2003. “Social Stratification and the Digital Divide”. *Social Science Computer Review* 21: 133-143

Whillock, Rita Kirk. 1997. “Cyber Politics. The Online Strategies of ’96”. *American Behavioral Scientist* 40: 1208-1225

Witt, Louise. 2004. Online Political Clips Get Nasty. 2004. *Wired*. http://www.wired.com/print/politics/law/news/2004/10/65439 (25 August 2007)

Zaller, John R. 1985. *Pre-Testing Information Items on the 1986 NES Pilot Survey*. Report to the National Election Study Board of Overseers.

Zaller, John R. 1992. *The Nature and Origins of Mass Opinion*. Cambridge: Cambridge University Press.

Vita

Hannes Richter earned his B.A. equivalent at the Leopeold-Franzens University of Innsbruck, Austria with a major in political science and minors in contemporary history and media studies. He earned his M.A. degree in political science at the University of New Orleans and completed additional educational programming at The Ohio State University, the University of Maryland and the University of California, Berkeley. He was a graduate research assistant with the University of New Orleans' department of political science, where he also taught American Government, as well as with the University's Center for Austrian Culture and Commerce. He was the Online Content and Research Manager for the National World War II Museum in New Orleans and a post-*Katrina* visiting fellow with the American Political Science Association in Washington, D.C. He served in the Austrian Foreign Service as Deputy Director of the Austrian Press and Information Service at the Austrian Embassy in Washington, D.C. He is co-founder of the non-profit corporation Campaign Digital, Inc. in Washington, D.C.