

THE USE OF WEB PAGES BY THE HOUSE OF
REPRESENTATIVES: IMPLICATIONS
FOR REPRESENTATION

By

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Bachelor of Arts

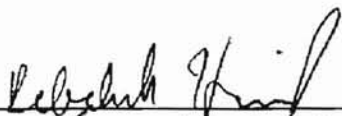
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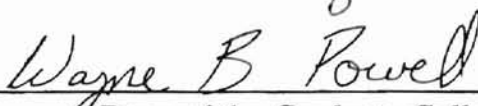
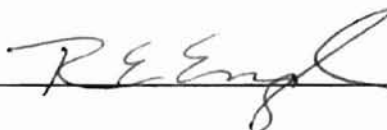
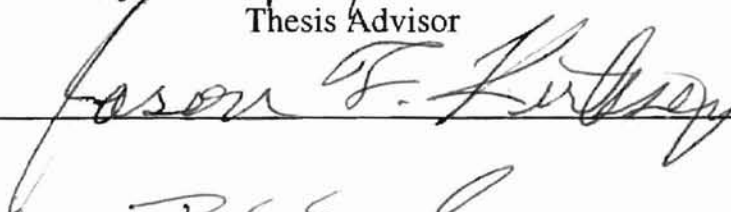
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This thesis is dedicated to my grandfather, Guy William Overmiller, who died last semester on November 17 at the age of 90. A Kansas farmer with only an eighth-grade formal education, he is the smartest person I have ever known.

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CHAPTER 1

INTRODUCTION

The United States House of Representatives is designed by the Constitution to be the most responsive branch in the national government in terms of its interaction with the American people. With short terms of office and a relatively small localized electorate, Representatives are under more pressure to maintain closer contact with the constituents within their districts than members of the Senate or members of the Executive or Judicial branches. This, in turn, means that in many instances the makeup of the individual districts may play a vital role in the behavior of the representative from that district.

The foundation upon which our democracy stands is that of equality. We have made great strides towards achieving that ideal within the last 200 years. One aspect of equality in a democratic system is the premise that the legislature is representing the people which it governs over. This representation involves not only making policies which are in the public's interest but also in providing access to information regarding the policies being considered and the even the policymaking process itself. Ideally, these forms of representation are open to

everyone. While reality rarely mirrors this ideal, the closer the government can come to approaching equality in representation the better.

The use of web pages by members of Congress (here, I am strictly looking at the House of Representatives) to provide information to and receive from the public and/or certain groups of people means that certain relationships in their representation may change. Changes that increase the ability of one group of people to get information is likely to increase the amount of representation that group receives. This could be construed as an unfair advantage. According to democratic theory, the solution would be to make sure that everyone has equal access to these technologies.

Members of Congress are severely constrained by limits on their time. They have enough duties and obligations that they will only take on an "extra" task if they perceive a benefit from it. As the literature will show, implementing information technology (of which web pages are a part) is a monumental undertaking within any system. Yet many members of Congress are willing to put forth the effort, through their own work as well as that of their staffs, to link themselves to the public through the World Wide Web. As mentioned earlier, members of the House of Representatives are the most responsive to the constituents in their individual districts. Information technology (IT) tends to be relatively expensive and often requires education in its usage. Therefore, people with greater amounts of money and greater experiential or educational background

in the uses of IT will be more likely to use and/or want to have access to Congress through this technology. In other words, representatives from more "elite" districts will be under greater pressure from their constituents to provide access through web pages. However, from the perspective of equality of representation, there should be no difference between which district's representatives have web pages and which do not.

This research deals with the use of web pages by members of the House of Representatives as an avenue of information dissemination to their constituents. Specifically, it focuses on whether or not Representatives have a web page and examines the demographic makeup of their respective congressional districts. The purpose of this research is to see if there are any statistically significant differences between the congressional districts in which Representatives have web pages and those whose Representatives do not and, if there are differences, to point out what they are. In addition, this research will see if there are any qualitative differences in these web pages. Certain types of districts may increase the probability that a member of the House would have a web page. This is an important consideration from a representation standpoint. In terms of equality of representation, this would be viewed as unacceptable.

This research will be broken into four sections: (1) An overview of the way the public influences Congress; (2) a look at the literature surrounding information technology, the impact it has on public organizations, the difficulties

of implementation, and the benefits that can be derived from it; (3) a look at the limited body of literature surrounding information technology and Congress; and (4) the research methodology, findings, and conclusions.

CHAPTER 2

CONGRESS AND THE PUBLIC

The Basis for the Existence of Congress

"The strength of the nation's democracy ultimately has derived from Congress's ability to identify the common concerns and shared interests of the citizenry amidst the disparate claims for personal advantage and thereby to discover shared principles for collective governance" (Dodd 1993, 417). This is the crux of Lawrence C. Dodd's argument for the legitimation of Congress. In his article he goes on to outline some of the problems faced by Congress today, stating that it is in a legitimation "crisis". His background on the role Congress plays in government is broken into two attributes:

1. "However imperfectly, Congress has served as our nation's primary *representative* institution. . . The representative nature of Congress has meant that citizens would have spokespersons in Washington who reflected their broad policy concerns and could speak for them in government. . . [In addition,] its attentiveness to a broad range of popular sentiment on issues, has lent a special authority to its policy solutions.
2. Congress has served as the nation's primary *deliberative* body-- the only institution that addresses national policy questions through open debate and collective policy choice. The deliberative character of Congress has meant that. . . citizens

could look to Congress to clarify the problems and devise broadly acceptable solutions." (Dodd 1993, 419-20).

Dodd points out that these two attributes have been eroded over time as Congress has shifted from *issue representation* toward narrowly focused *interest representation*. In addition, he mentions debate has shifted from what he calls *dialogic deliberation* over broad agenda issues and governing principles toward *strategic deliberation*. In other words, Congress is now in trouble of losing its legitimacy. The answer, as he sees it, is that the public must step in and "take back" control over the representative and deliberative functions if Congress is unwilling or unable to do it themselves.

This is where information technology can blossom. By opening up the workings of Congress to public scrutiny and giving the public a much more open forum in which to make their wishes known to their congressional members, the American people could indeed "...reassert their desire for those institutional processes that identify our shared purpose amidst a diversity of interests and that thereby bond us together as a nation" (Dodd 1993, 441).

Congressional Influence Over Constituents

One way of looking at Congress and its relationship with the public is what members of Congress bring or offer to the people who make up their districts. This falls somewhat into the category of particularized benefits or, as Dodd would

call it, *interest representation*, but it goes deeper than that. After all, the job of any representative is to take care of his or her people in addition to the nation as a whole. In order to do that, members of Congress must show their constituents *something*.

Richard Fenno and David Mayhew are two authors who do an excellent job in detailing what it is members of Congress "bring to the table" in their districts as well as what they may or may not face depending upon their district makeup. Both Fenno and Mayhew are in agreement about the primary motivation of members of Congress--they are driven by the desire to be reelected. While this sounds extremely self-serving rather than altruistic (and undoubtedly is to some extent) Fenno points out that it is the prerequisite for a congressional career and, hence, for the pursuit of other goals. This is important to remember because many of the more altruistic goals which members undertake in Congress can only be accomplished by the political clout that come with being a senior member.

Fenno introduces the concept of the four levels of constituencies, each of which is contained within the one before it, like concentric circles:

(1) *The Geographical Constituency*--This level encompasses the district at large. It is viewed by the member as not only as to its "space and place" perception but also as to its particular internal makeup i.e. the homogeneity-heterogeneity characteristic of the district. While hard to measure, this characteristic involves the number and compatibility of significant interests within the district and can be

viewed as the "cohesiveness" of the constituents. Fenno offers one sort of rough measure for this internal makeup:

"Districts that are purely artificial (sometimes purely political) creations of districting practices, and which pay no attention to pre-existing communities of interest are more likely to be heterogeneous. Pre-existing communities or natural communities are more likely to have such homogenizing as common sources of communication, common organizations, and common traditions" (Fenno 1977, 886).

(2) *The Re-election Constituency*--This level is made up of the people the member of Congress thinks votes for him or her. The member thereby forms an opinion of the people they feel give them victory at the polls. From this opinion they can make calculations as to how their actions will effect their chances of re-election.

(3) *The Primary Constituency*--This level is where members separate their routine supporters from their very strongest supporters. Fenno labels this level based on viewing this group of people as those each member of Congress believes would provide them their best line of electoral defense in a primary contest.

(4) *The Personal Constituency*--This final level is made up of the people so intimately close to the member that they go far beyond "very strong supporter". They may consist of advisors, confidants, or those he or she rely on for emotional support. (Fenno 1977, 884-89).

These four levels play an important role as to how members of Congress treat or interact with their constituents. Mayhew and Fenno go on to establish some of the activities representatives engage in to influence their constituents. While applying different names to these activities, there is a great deal of overlap

as to the concepts the two authors are explaining. It should be noted that each of the following activities have aspects unique to each authors' individual insights in addition to their shared characteristics. Here, the main ideas are presented in regards to the similarities each has with the other.

First is the activity which Fenno refers to as *home style allocation of resources* and Mayhew as *credit claiming*. The basic gist of the act is getting some resource or particularized benefit for the district or for certain individuals or groups within the district that will be linked as directly coming from the representative. Mayhew also refers to this as "casework". The act may be as simple as informing the constituents of an important piece of legislation which will benefit the district or a complicated as shrewd legislative maneuvering to bring home scarce resources or "pork".

Second is Mayhew's *advertising* or what Fenno refers to as *presentation of self*. It is simply the act of going out and getting known. Through this action, representatives build political support and trust among the constituency. Mayhew provides examples of this such as: frequent visits, nonpolitical speeches to home audiences, newsletters, radio, television, etc. Fenno breaks down the importance of this act into three important areas of trust: (1) *qualification*--He or she imparts the impression that they are qualified and, indeed, are the most qualified to hold their position in Congress; (2) *identification*--The representative passes on the impression that "I am one of you" to his or her constituents; and (3) *empathy*--Here

the impression is that the member cares about and understands the situation his or her constituents face.

Finally, is the act Fenno refers to as *explanation of Washington activity*. Mayhew's activity of *position taking* would fit under this concept as well. Here the object of the representative is to try and come out in the good graces of his or her constituents regardless of which way their decision was made. In other words, someone in the district is always going to be upset about some decision made by the representative and that representative's job is to try and explain/justify their actions in such a way as to please both sides. As Mayhew (1989, 24) says, "On a controversial issue a Capitol Hill office normally prepares two form letters to send out to constituent letter writers - one for the pros and one (not directly contradictory) for the antis." Fenno (1977, 909) sums it up as, "What he says, how he says it, and to whom. . ."

As one can clearly see, information technology could certainly enhance the ability of members of Congress in many of the above mentioned activities. The key here is information. Representatives could easily supply certain forms of information to the public at large through their web pages and even tailor certain information to more specific groups very efficiently and effectively through a sort of "electronic franking privilege" in the form of E-mail. Simply posting certain actions or providing links on their web pages to information regarding voting records, bills, committees, transcripts, etc. could go a long way in providing forms

of all of the above mentioned activities. While this would not reach all members of the constituency, it would most probably reach those members more politically motivated which make up the lower levels of Fenno's constituency groups. In other words, those most likely to care about the member's activities in the first place. Certainly it would arguably be a much more efficient way to reach certain target groups.

That is not to say that it will ever entirely replace the good old-fashioned form of one-on-one contact. Some forms of these activities will always be best performed in a personal setting. After all, human contact is what makes it "real". Hopefully, however, information technology will allow representatives to reach more of their constituents, perhaps even on a deeper level, and even through its efficiency perhaps free up more time for the member of Congress to participate in the truly important personal activities. In this way, perhaps the member will become even more "representative" of his or her constituency.

Constituent Influence on Congress

Miller and Stokes (1963) provide background on this area of influence by presenting three types of normative theories of representation. They are:

1. *Burkean*--This was first introduced by Edmund Burke, hence the name. Burke wanted the representative to serve the constituency's *interest* but not its will. This has led to much debate as to "...the extent to which the representative

should be compelled by electoral sanctions to follow the 'mandate' of his constituents" (Miller and Stokes 1963, 350).

2. *Instructed-Delegate*--This type of representative is controlled entirely by the local constituency. His or her own will or ideology is secondary to the will of the people in the district. Here, it would seem, majority opinion wins out time after time.
3. *Responsible Party*--This type of representation is the opposite of constituency control. Here the power is seen as held by responsible national parties which place the needs of the district behind the needs of the nation as a whole, rather than try to provide some balance or trade-off between the two.

After outlining each of these, the authors go on to state,

"No one tradition of representation has entirely dominated American practice. Elements of the Burkean, instructed-delegate, and responsible party models can all be found in our political life. Yet if the American system has elements of all three, a good deal depends on how they are combined. Especially critical is the question whether different models of representation apply to different public issues" (Miller and Stokes 1963, 350).

This idea of different models for different issues segues into their sentiment that perhaps legislators are under different levels/types of pressures from their constituency depending upon the issue area. This contention is borne out in their research and is picked up and echoed by other authors' research as well (See Arnold 1990; Sullivan et al. 1993; and Adler and Lapinski 1997). Constituency

pressures on members of Congress do exist and are different over different policy areas in types and in strength of intensity.

This is not to say that this type of influence always wins out. Sullivan et al. are quick to point out that the constituency only makes up a part of a much larger group which influences legislators. They outline four types of what they refer to as *cue-givers*. They are:

1. *Expert* cues which consist of the committee staff and, among Democrats, of the committee chair.
2. *Party* cues which consist of party leaders, state party delegation, other party colleagues, and, among Republicans, ranking minority members.
3. *Constituency* cues which consist of the member's constituency, organized groups within their constituency, and the media.
4. *Executive* cues which consist of the president and members of the bureaucracy.

These four combine to form two broader categories of cues: Those that are internal (1 and 2) to the legislature and those which are external (3 and 4). (Sullivan et al. 1993, 985). Another finding of all of these authors is that issue saliency is very important to the motivation of constituency to take action in influencing their representatives. Without some form of saliency, the influence of the other cue-givers becomes more dominant.

Returning to the focus on the influence of the constituency, Miller and Stokes devise a model of how the constituency can control the policy action of the

Representative (see Figure 1.1). It should be noted that they assume that this occurs when the constituency influence is greater than that of the other actors.

"...the constituency can control the policy actions of the Representative in two alternative ways. The first of these is for the district to choose a Representative who so shares its views that in following his own convictions he does his constituents will. In this case district opinion and the Congressman's actions are connected through the Representative's own policy attitudes. The second means of constituency control is for the Congressman to follow his (at least tolerably accurate) perception of district attitude in order to win re-election. In this case constituency opinion and the Congressman's actions are connected through his perception of what the district wants" (Miller and Stokes 1963, 354).

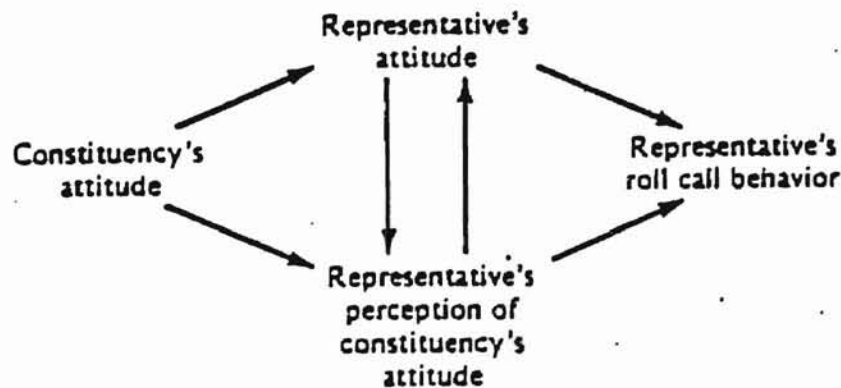


Figure 1.1 Connections between a constituency's attitude and its representative's roll call behavior

Miller and Stokes then apply this model to various policy areas and determine the intercorrelation between the variables. As mentioned above, they find that each varies depending upon the policy area.

Adler and Lapinski show how this constituency influence pays off for the district. In their research, the authors formulate what they term a "gains from exchange" model in which they hypothesize that "...congressional committees will

be composed of representatives who come from congressional districts with higher demand for the policy benefits that each committee controls" (Adler and Lapinski 1997, 895). The results of their research are that districts with high levels of "need" for the policy benefits under the jurisdiction of certain committees were found to be made up of members representing those districts. These findings applied to not only service-oriented committees but also "policy oriented" committees as well. The basic finding of their research is that, "...legislators self-select committees with jurisdictions that provide potential district (read 'electoral) gains for members" (Adler and Lapinski 1997, 896).

One thing is clear from the above research; there are many players in the Congressional arena. Information is power. Information technology helps provide that power. Representatives can better inform their constituents and be informed by them. There are many cue-givers which members of Congress listen to. Constituents only make up a part of them. Rest assured the others, which in many ways have several advantages over the public in their ability to give and receive information, are working hard to influence legislation. The use of IT through web pages or other forms of communication may help level the playing field, so to speak, for the constituency in the district. In addition, at the very least the information provided on web pages could help establish some saliency with certain members or groups of the "attentive public". After all, for an issue to even have a chance of being salient, it has to be known first. If it is then deemed salient by the

public, this can be made known to the representative. If not, then this would also be known. Information technology offers a powerful form of communication for both the representative and the constituency. It allows the representative an avenue to keep in touch with the pulse of his or her district by providing an efficient and effective way for the electorate to express their opinions and preferences. Perhaps some of the guesswork over the public response to certain policies would be ameliorated, thereby allowing the member of Congress to be a more effective legislator.

CHAPTER 3

THE IMPACT OF INFORMATION TECHNOLOGY ON PUBLIC ORGANIZATIONS AND MANAGERS

Introduction

We live in a new era; an information age in which people are becoming more closely linked, the concept of community is expanding, and in which the possibility for human achievement is greater than it has ever been before. "Throughout the history of the United States, great concern has been expressed about the ability of everyday citizens to actively contact their governments and so, to improve the democratic potential of this representative democracy and society" (Stowers 1995, 15). Never has this ideal been more possible than right now. Rapid technological changes are altering the way we work, interact, and receive information. These alterations bring with them new expectations. The role of information technology within American government will become increasingly important if these expectations are to be met. Because of the interaction with the public on a daily basis, the government is continually in the limelight; it can ill afford to lag too far behind. What this means for representatives is that there will

be increasing pressure upon them to develop, implement, and use information technology within their organizations in order to stay productive.

This chapter is broken into three sections dealing with the importance of information technology (IT) in government and other public organizations, particularly as to how it relates to upper level officials: (1) Motivations for the adoption of IT; (2) Implementation of IT; and (3) Some examples of the potential of IT systems.

Motivations for the Adoption of Information Technology

Internal Motivations

Internal motivations primarily come from two sources. First, are pressures stemming from governmental agendas. An example is the National Information Infrastructure (NII), which is an outgrowth of the National Performance Review (NPR) conducted by vice-president Al Gore in 1993. The NPR, of course, was aimed directly at increasing the efficiency and effectiveness of the federal government. One of the key elements the vice-president feels is important for private, public, and governmental sector management theory is "...the new role of information technology in transforming the manager's job" (Gore 1994, 317). The NII has as one of its main goals the connection of all classrooms, all libraries, and all hospitals and clinics by the year 2000 (Babington 1995, 8). With goals such as these being internalized by the executive branch of the federal government, it is

easy to see how members of Congress are under pressure from within the legislature to adopt IT systems.

Another type of internal motivation comes from members of Congress themselves, or from other actors within the government. For example, in this day and age members of Congress and their staff are being asked to deal with increasing loads of information or services in a smaller amount of time. They may feel that in order to remain efficient and effective, they require the resources that information technology can provide. In some cases IT systems may actually be a necessity simply for that person to continue to do their job. This pressure can often also be associated with the reinventing government concept of "doing more with less," a concept readily espoused within the Congress.

External Motivations

First, and perhaps the most important external motivation for information technology is citizen pressure. In today's society, people demand more for their hard earned tax dollars. Part of this pressure stems from the level of service people get in the private sector. They are introduced to technological advances that reduce service time, increase ease of use, and disseminate information more quickly and they expect the same quality from the federal government, the largest public service organization of them all. At the same time, citizens do not want to pay more for these services. In addition, citizens are increasingly able to keep tabs

on the government through increasing advances in technology. Sources such as the Internet, C-SPAN, and other forms of mass media allow citizens access to information much more easily than ever before, and that means much more careful scrutiny of government and other public organizations. In the future, government officials are going to be more visible to the public at all levels and are therefore going to be held more responsible. It will be important for them to have the resources on hand to meet these increased responsibilities. One of the ways they can do that is through IT.

Second, the government is struggling to meet these increasing demands for information technology services. Many times, not only are the respective branches and other governmental organizations trying to keep up from a technological standpoint, they are also trying to deal with an ever growing population. Richter (1996) provides an excellent example using the case of Los Angeles County Employees Retirement Association (LACERA). She tells how practices, which are cost-effective and efficient when a service group is small, can become rapidly overburdened and even break down as the size of the service group increases.

Government has not only become more complex but so have the responsibilities of managing it. "In U.S. government, individual issues are addressed by individually authorized and funded programs, which in turn are administered by specific agencies at the federal, state, and local levels. . . Strategic information management in the public sector can be a more powerful tool for

service integration" (Anderson et al. 1994, 336). As demands for efficiency and effectiveness in government increase, service integration through IT will become more and more crucial. This will be particularly important for Congress because of the oversight role that it plays in checking on the implementation of its legislation and programs. Members of Congress who use IT will not only be able to receive feedback from the public but also directly from the very programs they helped pass.

A third motivation for some governmental and public sector organizations is competition with private organizations, which relates back to customer expectations. As the private sector begins to offer cheaper, more abundant, and more efficient services, governmental and public organizations must struggle to keep up so that they don't fall too far behind. In some cases, such as school funding, public and private organizations may be in direct competition for scarce federal dollars. Finally, another part to this competition is the fact that several government agencies serve as watchdogs over society as a whole, which includes private organizations. In order to do their job, these agencies must be at least as technologically advanced, if not more so, than the organizations they watch over. In many cases, the pressure may come directly from a governmental order to "stay ahead" of the competition.

Implementation of Information Technology: Some Considerations

Costs

The costs most generally equated with the implementation of IT are the costs of hardware and software. Going along with these costs are costs for consulting firms and evaluations to determine the needs of the organization. One consideration pointed out in the literature is the costs of many of the "extras" which get tacked on to IT systems, especially to software. These "extras," which tend to be high end functions such as forecasting capability, are many times the most expensive part of the package. Another consideration is to determine exactly how this IT is going to be used. Is it going to be used strictly by employees within the organization, or will the public be allowed access to certain information too? If the public is going to use it, what kind of access will it have and at what level of availability will it be provided? Musthaler (1996, 48) points out that "...continuous uptime will cost. It can quite easily double the cost of computing as you invest in all sorts of redundant systems, from servers to power sources." Then there is the matter of security, which also costs. The point of this discussion is that many members of Congress are willing to use their limited resources in order to provide these services. Obviously they feel impelled by certain forces to take on this activity, otherwise they would not do it. Members of Congress are very busy people, for them to take this step in implementing IT into their respective offices

(and arguably throughout Congress) says a lot about the value they put in this form of communication.

Another cost which is highly overlooked in government and other public organizations is the cost of training. In many cases, the implementation of the hardware and software is the easy part, the implementation of the training is what is hard. The software and hardware members of Congress buy today will do them little good if they and the employees who will be using this technology have no idea how it works. To make full use of the new IT system, everyone in the organization who will be using it needs to be trained. This training is costly, but it is necessary. "...information technology is not an end in itself, but rather a means of facilitating dramatic changes in the ways of doing business" (McCrindell 1995, 45). Halachmi (1995, 11) points out that training lags behind the expenditures on hardware and software for four reasons:

1. The cost of training involves not only the direct cost of the training itself but an indirect cost that results from the inability of the employee to devote full-time attention to regular duties.
2. Many managers [or government officials] ignore the dysfunctional effects of learning, i.e. that learning how to use one system makes it more difficult to learn the use of another system. This contributes to an under-utilization of the new and different features of the new software and hardware.
3. Most agencies lack the logistical capability to deliver the necessary training to all the primary and secondary users of a new information system within a short period of time. Unlike many organizations in the private sector, most public organizations [the federal government included] cannot shut down for an extended period of time.
4. Finally, traditional attitudes towards training make it the first victim of any budgetary cuts. Agencies have an easier time making a connection between computer hardware and software, than between training and performance.

Motivation

Management is the key to motivation. One thing that is stressed in the literature is leadership from the top down is crucial when implementing IT. This only makes sense. Few employees in the government are going to be willing to embark down a path that their bosses don't believe in. In addition, "The willingness and ability of managers to invest in computer technology is not always matched on the human side of the enterprise" (Halachmi, 1995, 10) and "Migration from the use of one type of software to another is not as automatic as we would like to believe" (Lan and Cayer 1994, 216). This means that representatives must not only take a hand in the implementation process, they must get others involved as well. This can be very difficult, especially for members of Congress because of the severe constraints on their time from all their legislative duties. The advantage to the implementation of IT is that this process will get easier as time goes on simply because of the increased information and communication capability as a result of implementation. Members of Congress will be able to more effectively communicate their ideas and visions with employees throughout the hierarchy and will also be better able to respond to questions or concerns.

The motivation of employees is very important to the success of IT implementation. After all, in many cases they will be the primary users. Employees, however, are many times resistant to change. Nedovic-Budic and Godschalk (1996, 555) mention eight human factors that have been considered

significant in previous research on the diffusion of computerized information systems: (1) perceived relative advantage of the innovation; (2) personal values and beliefs about computerized technology; (3) computer experience; (4) perceived complexity of the innovation; (5) exposure to the innovation; (6) computer related anxiety; (7) attitude toward work-related change; and (8) communications behavior (networking). As one can see, these factors can very easily not only affect government employees but also the representatives themselves. Once again, it is a testament to the importance, or at least the perceived importance, of information technology if members of Congress are willing to tackle these hurdles within their staff and perhaps even within themselves in order to implement IT systems.

There are many ways representatives can help ease the implementation, chief among them is employee involvement in every step of the process. Assessment, training, and evaluation is very important to the success of IT implementation. There are many steps involved in the process and the literature overlaps in many areas. Richter (1996, 11), however, appears to cover all of the steps mentioned in the other literature (and a couple that aren't) in her outline of the eleven steps which LACERA took toward successful technology implementation:

1. A goal specifying desired business results was defined.
2. Alternative methods for achieving this goal were identified and evaluated.
3. Once a method was selected, enabling technologies were evaluated to determine whether and how they will support the method chosen to achieve the goal.

4. After the appropriate technologies were identified, a plan was developed to determine specifications for each technology and to integrate the different types of technology into one system.
5. Specifications were rigorously tested in laboratory conditions by the end users.
6. Employee participation in the implementation project was obtained during every phase of the project.
7. The ability of employees to adapt to the new work methods and to use the new technologies was assessed.
8. Training programs were developed to address any areas of weakness.
9. Employee attitudes toward change were evaluated, and programs were developed to fully communicate the new methods.
10. Behaviors supportive of the new working environment are rewarded and negative behaviors result in negative consequences for the employee.
11. Every component of the organization was evaluated and modified as necessary to support the new business process.

Some might view this procedure for implementation excessive, and indeed in many cases, depending upon the application of technology, it might be. However, in a survey of public Information Systems (IS) managers from the local, state, and federal government Swain et al. (1995, 285) revealed "Although the issue of strategic planning [of information technology] is considered important in both the public and private sectors, proper attention is not given to it in the public sector." Once again, the importance is that this process is time-consuming and costly, yet representatives are willing to pay that price.

Specifications

During the implementation process, government officials need to not only focus on the technology needs of their organization now, but also on what those needs will likely be in the future. In other words, they need to leave themselves

some room to upgrade. One way representatives can accomplish this task is by including input from every employee. Many times employees will have ideas about what they need to accomplish the goal, what they are likely to need in the future, and may even have some hardware or software preferences. One thing which might be considered when implementing IT is the popularity of certain software packages (see Lan and Cayer 1994, 215). Long term, it might make hiring easier when candidates already have the skills needed on a certain system.

The literature offers some advice about the seeking and receiving of technical expertise from a consultant. "Project management frameworks have been developed in the private sector that can provide guidelines, but blindly adopting such frameworks to the public sector [or government] can be misleading. What is needed is a workable project management framework that addresses the common elements of risk management and project management, while taking into account the unique needs of public administration" (Cats-Baril and Thompson 1995, 559). This is an important concept to realize because the public and private sectors *do* differ in the types and amounts of services they provide. In addition, the federal government has considerations which neither the public nor the private sector have to deal with at all. Representatives are in a particularly unique place in that in some respects they are like a public manager while in others they are more like a private manager. They also have (or do not have) some duties and responsibilities which set them apart from both.

Focusing on the future, the types of hardware and software purchased now can make the difference between real problems and relative ease later on. This is another area in which strategic planning is beneficial. If a member of Congress knows that down the road he or she will be making future IT implementations, perhaps in different areas, then he or she will want to take that into consideration when implementing for the present. Certain software may not support future "add-ons". In addition, software and hardware manufactured in one area may not be able to communicate with software and hardware in another area. While current costs have to be kept in consideration, flexibility within the system should be available, especially since a great deal of legislation, oversight, and public administration involves an incremental approach. Having to learn the hard way by either starting over with the implementation of an entirely new IT system or taking a hit in the budget to bring in programmers to write customized software is something no one wants to face. To avoid this, government officials should seek to implement hardware and software that is upgradeable and offers hardware and software in areas of future expansion or is compatible with other systems that do.

Another crucial area to be considered for specification when implementing IT in Congress and, for that matter, all public organizations, is that of the public. The role of Congress and public administration is, after all, to serve the public. Citizen's tax dollars are what pay the bills and they have the right to a say in how those dollars are spent. The implementation of IT is an excellent way for members

of Congress to improve public relations by seeking public input. One of the basic functions of governmental and public organizations is the distribution of information to the public as well as among other organizations or agencies. By involving the public in the implementation process, managers not only bolster public support, they also gain valuable insight into how to better serve their clients by learning what types of IT services the public wants. This process can be a very positive and beneficial experience. New avenues can be made connecting relatively autonomous services, saving time and reducing waste and inefficiency through duplication of processes. Information can be distributed more quickly, easily, and efficiently. Bi-directional feedback between the public and the representative, the government, or the public organization can increase cooperation by allowing greater dialogue between officials and citizens. In addition, this dialogue may help speed the often highly politicized implementation process of IT as was the case in Orange County, Florida during the implementation of the Well Connected Community (WCC) program (Babington 1995).

Information

While much of this area has been touched upon in previous sections, it will be reiterated here. Members of Congress need information to make the implementation of IT within the legislature work. They need to get input from all sources inside and outside of the organization in order to make informed decisions

regarding the implementation process. In addition, one of the representatives' responsibilities is to disseminate information throughout the organization and to the public as well. Information technology is all about the communication of ideas and information. The goal of IT is to connect people together, whether they are coworkers, members in another organization, or members of the community. Assessment and evaluation of processes within the organization are important, too. Not only are they essential in the preliminary stages of adoption, they also play an important part in the integration and diffusion phase by helping government officials pinpoint areas of strengths and weakness to build upon or to build up. They also help members gain the knowledge they need to do the implementation job right the first time. One of the common themes in the literature is that while there are many successful implementations of IT, there are many setbacks and failures as well. The better informed a representative is about the process of implementation, the more likely he or she is to succeed.

Contracting Out

Another avenue for members of Congress to consider, which is somewhat separate from the organizational adoption of IT, is the contracting out of services. This is a particularly viable option for public managers in the United States because over 50% of all government spending on IT is contracted out. This is a certainly a valuable strategy because production costs are usually lower in the

private sector than in the public sector (see Globerman and Vining 1996, 578). There are some definite dangers to contracting out, though, that representatives must be able to assess and address. Contracts that are poorly written may cause problems down the road. Since the goal of the government is to serve the public in the most efficient and effective way, contracting out may be a good strategy. However, the catch which government officials must be aware of is their responsibility to make sure the public is receiving the level of service it should. A well written contract can help accomplish this. One particularly useful article helps outline how to achieve this goal. "The key issues in assessing contract design are task complexity, contestability, and asset specificity. Potential strategies are available to modify each of these determinants." Task complexity describes the degree of difficulty in specifying and monitoring the terms and conditions of a transaction, such as measuring the quality of a piece of computer hardware. Contestability is the potential number of firms available to contract with if the price exceeded the average cost incurred by contractees. Asset specificity refers to the value of the asset in alternative uses. (Globerman and Vining 1996, 579-580).

What this means for busy members of Congress is a shortcut which can save time, ease implementation, and decrease costs to his or her budget. In fact, many of the Web pages I looked at for the various members of the House appeared to have been created by an outside agency. Many of the sites had an "advertisement" of sorts indicating who the creator of the particular pages were.

This would probably work fine for Congressional web pages, however, there are still issues of accessibility and security. Some features of IT are simply not going to be contracted out to just anyone.

Post Implementation: The Changes, the Benefits, and the Possibilities

Inter-organizational

Implemented correctly, there are many benefits to be derived from IT systems from within the organization. First, both members of Congress and their staff can do their jobs with more efficiency, speed, and effectiveness. Many, though not all, tedious and repetitive tasks will have been automated or made unnecessary. The organization will be streamlined, waste and inefficiency will be pared down, and unneeded positions will have been eliminated, saving the organization and the public money.

Second, the hierarchy will have been somewhat flattened because of increased communication and distribution of information throughout the organization, both laterally and horizontally. The representative will now have closer ties with his or her subordinates and at the same time the employees will feel less micro-managed because of their technologically expanded capabilities. Many workers can enjoy additional side-benefits as well. "While the concepts of compressed workweek, flextime, and job sharing are not products of the revolution

in office and information technology, they have been influenced by it. Simply put, the new technology has made it easier for organizations to use such alternative ways of organizing work" (Halachmi, 1991, 249). This is a really tremendous bonus that opens up whole new possibilities for workers such as women with young children or persons with disabilities. The federal government, in seeking to remain the most diverse and least discriminatory agency in the nation, will have even more flexibility and resources with which to accomplish those goals.

Finally, the decision making process and managerial ability of the organization will have been strengthened as well. Powerful tools for forecasting, projecting, and evaluating will be in place to maximize the use of the organization's data. Findings from one study concluded that Group Support Systems (GSS), a form of information technology, helped reduce the possibility of "groupthink" in tasks where judgments have to be made (see Miranda and Saunders 1995). Groupthink is a problem that often plagues policymaking groups. It is caused by the socializing effects of the organization muting disagreement or consideration of alternative ideas, which can lead to poor decision making. An example of poor judgment determined to have been caused by groupthink is the decision to launch the Challenger shuttle on its fateful mission, even though information had made it clear that the O-rings weren't meant to take the temperatures they were subjected to. Members of Congress are, first and foremost,

policymakers. Anything which allows them to make more informed decisions in a more timely manner would be looked upon with gratitude.

Intra-agency

The benefits of IT systems are even more clear at this level. First, in addition to all of the benefits above, information distribution across organizational and governmental lines help link services together. Different organizations benefit collectively, and in many cases share the risk and the costs involved for implementation. The quality and quantity of service increases as well. For instance, coordination among interrelated agencies can now be accomplished much more effectively, efficiently, and quickly. An example of this would be social services. By sharing information, duplication of processes is eliminated, thereby saving money while at the same time delivering more. This would not only help members of Congress accomplish their oversight function but also allow them to more effectively communicate their intentions or reactions to the various public agencies.

Another benefit of sharing information is the elimination of abuses of the system and fraud. Computers databases can be set up to monitor each other for discrepancies such as dead people voting, drawing social security, or drawing welfare. In addition, criminal databases such as those for fingerprints can be linked nationally and even globally. On the flip side, errors in the system

introduced by faulty data can be more easily corrected as well. All of these things can help the government run more efficiently and effectively and, most importantly, fairly.

Community

Here is where the potential for information technology makes its largest contribution, which makes sense since the public is the ultimate recipient of the services from the government itself or through its public organizations. "The introduction of new technology such as a computer can trigger in society a power shift from centralized to decentralized power that eventually alters society; including government" (Lynch and Lynch 1996, 282). By connecting to the community, the government and public organizations are interacting on a never before realized level. Citizens are experiencing benefits such as one-stop service and self-service, whereby they can get their business with many different organizations taken care of in one place, by an employee or by themselves respectively. Stowers (1995, 18&19) does an excellent job in outlining the seven ways in which governments are providing the public with access to services through the Internet:

1. Information access. The simplest usage of Internet tools. This involves the posting of information for readers to write down, capture, or print.
2. Document access. Involves the posting of full files of information on the Internet via anonymous ftp site, gopher, or World Wide Web site. Citizens may access the files and download them to their computer at their leisure.

3. **Interactive information access.** Involves utilizing the computer technology to allow a citizen to ask a question about some government service and immediately receive an answer. The type of uses found here would rely more on programming the computer than on interaction with human beings.
4. **Communication with elected and appointed officials.** This involves the use of electronic mail, computer conferencing, a bulletin board system, or some other computer-mediated communications tool to allow citizens to ask questions, pose problems, or discuss issues with their elected officials and public managers with access to the same system. Currently, many members of the House and Senate have e-mail accounts.
5. **Paperless document filing.** Citizens can file forms such as complaints and applications for library cards, and fill out other government document forms. Not only does the form not have to be in hard copy, but citizens can get much quicker service and response from their governments.
6. **Discussion groups.** Bulletin boards, e-mail accounts, and listservs have been used to discuss and organize citizens to ensure access, present complaints, and organize to change public policy.
7. Finally, the most complex system is the comprehensive system, the freenet model. Freenets may include any or all of the tools and Internet uses. They are also considered comprehensive because they don't limit themselves to strictly governmental sources, but also nonprofit and private sectors as well.

Lastly, the community can become connected in ways never before dreamed possible. Information technology can cut across racial and social class lines. Public kiosks can provide free access to everyone. Public libraries, always a good source of information, are now providing computer workstations hooked into the Internet for anyone to use as well. Society, according to the literature, is becoming a culture no longer divided by technology "haves" and "have-nots".

Conclusion

Information technology is a powerful tool. In capable hands, it can forge heretofore unrealized alliances between government and citizens, public and

private, rich and poor. Today's government official can no longer shy away from technological advancement, it is rapidly becoming the expected norm in government and public service. Information technology is changing the traditional view of work. Members of Congress and public managers are beginning to be viewed less as tyrants and more as the leaders they are. Workers are discovering they are more than just drones completing some mindless task, they are realizing that they are a valuable part of an organization whose input is valuable and necessary for the organization's success. They are also discovering newfound freedom in where, when, and how they work.

Today, information once nearly inaccessible only ten years ago is at our fingertips, merely a mouse click away. Best of all, in many cases this information is free. What this means for members of Congress is more responsibility and more accountability to the public for their actions. However, the reward will be a closer working relationship with employees, other agencies and organizations, and the community they serve; this is the ideal for which the representative of the future must strive. "Recall how a few decades ago the phrase 'made in Japan' was synonymous with poor quality. And now 'made in Japan' is synonymous with very high levels of quality. We need to create a future in which the phrase 'good enough for government work' is said in an admiring tone. It can be done. It will be done" (Gore 1994, 321).

CHAPTER 4

CONGRESSIONAL USE OF INFORMATION TECHNOLOGY

There isn't a great deal of literature available which directly looks at both Congress and information technology (which web pages fall under) at the same time. Recently, however, Congressional Quarterly released a special report dealing with exactly this approach. The report dealt with many different aspects of Congressional use of information technology such as web pages (Weisman 1997, Ota 1997), E-mail (Weisman 1997, Swope 1997, and Hosansky 1997), and television such as C-SPAN (Katz 1997 and Gruenwald 1997). One article mentioned a computer access activist who referred to the web pages as "...an electronic franking privilege" (Weisman 1997, 2937). Overall, the articles help put the importance of information technology in Congress in the spotlight. They show that things are changing on the hill towards more use of electronic media and that citizens are demanding more and more access to the government through those means as well. One particular article which addresses this phenomenon of the public being able to keep tabs on the government through the use of information technology and what it means for the future is "Big Brother, We are Watching You" by Walter Wriston (1993). In it he describes that simply by connecting the

world together, men and women unconsciously placed restrictions on the ability of the government to act alone, without being checked by any outside force. He points out that, "From a political point of view, . . .there is no way to resign from the new Information Standard, as you could withdraw from the Gold standard" (Wriston, 1993, 57).

One of the concerns in the literature on information technology is making it available to all citizens. Access to the Internet is very nice, but it requires a computer and the knowledge/confidence to use that computer. Computers are expensive and the knowledge to run them can be costly in terms of the time and/or money it takes to gain the correct skills. In other words, people who have enough money to afford a computer and the education and/or money necessary to operate a computer will be the beneficiaries of what the Internet has to offer while those who don't will be left out. This is not a socially equitable situation.

Some research suggests that the way the government can overcome this problem is by providing free public access to the Internet and other sources of information technology and making that access easy to use and understand (Dierdorff 1996, Stowers 1995, and Kirschner 1993). Stowers (1995, 19) states, "...more must be done to ensure that every citizen has equal access to all efforts by the government to improve services and interaction". The federal government itself has backed the notion of this concept of access for everyone with its adoption of the National Information Infrastructure (NII). The NII's main goal is the

implementation of a broad based multi-media national resource accessible to all citizens (Stewart and Pearce 1994).

What all of this means is that the research in the field of information technology as it relates to interaction between the government and the public indicates definite differences in access between the "haves" and the "have-nots" in society. Since this is the case, my expectation is that these differences will manifest themselves at the congressional district level in determining whether or not members of the House of Representatives have web pages. The importance of information technology within the government and the importance of its effects to the public have been shown. Now it is time to outline how I set up my research.

CHAPTER 5

CONGRESSIONAL WEB USE AT THE DISTRICT LEVEL

Introduction

To reiterate, this research focuses on whether or not Representatives have a web page and examines the demographic makeup of their respective congressional districts. By doing this research, I am attempting to explain why some members of the House of Representatives have web pages while others do not. Districts with higher levels of socioeconomic status (SES) may increase the probability that a member of Congress would have a web page. This is an important consideration in today's information society. There are higher expectations among the general public in the quality, quantity, and promptness of service they receive in every aspect of life, including their interaction with the government. People may reason that if they can receive information quickly and easily from their bank, their insurance company, etc., their elected representative should be no exception.

The Internet allows the public to access heretofore unprecedented amounts of information quickly and easily and members of Congress can take advantage of this. Representatives can now set up web pages on the Internet which keep their

constituents apprised of a variety of different things such as: their actions/duties in Congress, what is "going on" in Congress, the way they voted, links to other sites of interest, access to certain government documents, the list goes on and on. Through E-mail, constituents may even be able to have much quicker and more effective contact with their representative. Representatives, in turn, can respond to their constituents in a much more efficient manner, if in no other way than the simple saving of paper and postage and handling. The basic principle of democracy is involved here: anything which improves the responsiveness of an elected representative to his or her constituents (and vice versa) should be viewed as a good thing.

Information technology (IT) tends to be relatively expensive and often requires education in its usage. Therefore, people with greater amounts of money and greater experiential or educational background in the uses of IT will be more likely to use and/or want to have access to Congress through this technology. In other words, representatives from more "elite" districts will be under greater pressure from their constituents to provide access through web pages. At the same time, residents who are younger are more likely to have been exposed to this type of technology in an educational setting and are less likely to be inhibited in its use. Therefore they are more likely to use and/or want to have access to Congress as well. Setting up, maintaining, and updating these web pages involves a large amount of time and energy, however. What might be a "good" investment of these

resources for some representatives might not be for others. Web pages are useful and efficient tools only if constituents take advantage of them. Certain characteristics of constituents, such as those mentioned above, may influence their use or desire towards using the Internet as a way to obtain information. My hypotheses are:

1. The wealthier the constituents in the district, the more likely the representative will have a web page.
2. The more educated the constituents in the district, the more likely the representative will have a web page.
3. The younger the constituents in the district, the more likely the representative will have a web page.

Research Design

In order to begin my research, I first had to precisely determine which members of the House of Representatives had web pages and which did not. By precisely I mean that I needed to gather this information on an individual rather than an aggregate level. This was important because it allowed me to use their individual districts as a source of data.

First, I used the Internet to download both a list of members of the U.S. House of Representatives of the 105th Congress (updated December 1, 1997) and a list of member office web services of the same members (updated May 22,

1997). Then it was simply a matter of comparing the two lists to determine which members had web pages and which did not. Both lists gave me not only the name of the Representative but also their Congressional district within their respective states. This simplified the process of matching each member up with their particular district. The data in this research include the representatives from all 50 states and the District of Columbia. Not included in this data are the representatives from American Samoa, Guam, Puerto Rico, and the Virgin Islands. In all, 334 out of 435 members of the U.S. House of Representatives (excluding those members mentioned above) have web pages. This means that approximately 23% of the representatives do not use web pages as a source of information dissemination/contact with their constituents. I did not include the Senate in this research because all 100 members of the Senate have web pages, making it impossible to distinguish between them at a primary level of data.

In addition, I devised a rudimentary qualitative assessment comparing the content of the individual Representative's web pages by counting the number of links each page had and also by checking to see if the representative had (or had included) an E-mail address on their web page which constituents could use to communicate with them. I considered these two measurements important because part of the theory for representation is better information distribution, which is arguably supplied by links to other places or web pages. Another argument for representation is the flow of communication from the public to the representative.

Obviously, a representative who has an E-mail address has a much quicker and more efficient way of not only hearing from his or her constituents but also in responding back to them over a representative who only has a mailing address.

Next, having obtained individual information on the existence and quality of web pages, I entered data from each member's particular district. The district data I used came from the book Congressional Districts in the 1990s: a Portrait of America published by Congressional Quarterly which compiles data from the 1990 census and other data sources. Based on the literature, I hypothesized that the wealth, education, percent of white collar jobs, and the percent of urban population in a district would have a positive impact on the chances that its representative would have a web page and the quality of those web pages. In addition, I also looked at whether or not there was a partisan difference (because Republicans tend to represent constituents with higher levels of SES) between the types of representatives which had web pages and also whether the racial, age, and gender makeup of the district (not the representative) had any influence.

My operationalizations for the variables are relatively straightforward. The dependent variable, web page, is coded 1 if the representative has a web page and 0 if they don't. Since this dependent variable is dichotomous, I used logistic regression in the analysis. For the qualitative measures, the dependent variable E-mail is coded 1 if the representative has an E-mail address listed on their web page and 0 if they don't. I used logistic regression for this analysis as well. The other

qualitative variable, the number of links, was entered as the exact number of links each representative's main web page had. Links branching off from other links were not counted. Because this created a multichotomous dependent variable, I used regression for analysis.

The following are all independent variables: Party is coded 0 for Democrats and 1 for Republicans (the one Independent from Vermont, Bernard Sanders, is more liberal leaning so I coded him as Democrat). Race was entered as the percentage of Whites in each district and the percentage of Blacks in each district. I excluded the percentages of other minority groups (such as Asian and Latino) because, while they do make up sizable populations in certain areas, they are relatively geographically confined to a handful of states and districts. I felt the resulting number of cases would be too small for adequate analysis. Gender was entered as the percent of females in each district. The wealth of the district was measured as the median family income in each district. The education of the district was entered as the percent of persons age 25 and over in each district who had a college bachelor's degree or higher. The percentage of white collar jobs in the district was entered as the percentage of persons age 16 and over in each district who have white collar jobs. The book defined white collar jobs as: managerial and professional specialty occupations (including executive, administrative, and managerial occupations and professional specialty occupations); and technical, sales and administrative support occupations

(including technicians and related support occupations), sales occupations and administrative support occupations including clerical. I also did the same for blue collar jobs. The book defined blue collar jobs as: Precision production, craft and repair occupations; and operators, fabricators and laborers (including machine operators; assemblers and inspectors; transportation and material-moving occupations; and handlers, equipment cleaners, helpers and laborers). The urban population of the district was entered as the percent of persons who have an urban residence in each district. The age of the district was entered as the median age of the residents of the district.

Findings

I used logistic regression to perform analysis on the web page and E-mail variables. The number of selected cases was 436 (435 congressional districts plus the District of Columbia). When I ran the bivariate correlations for each of the variables I discovered that there was quite a bit of multicollinearity between several of the variables. In other words, the effects of one variable were the same effects being picked up and measured by other variables as well. Mainly this is because several of my variables are measures of socioeconomic status (SES) such as: median income, education, race, etc. Because of this, I tried to structure my analysis to use only independent variables which were not highly correlated but still covered all of the areas I was measuring. Since my thesis focuses on

representation, I chose to use the independent variables which most clearly captured any statistically significant disparities in the equal distribution of web pages among members of Congress. For that reason my independent variables were decreased to include only the median age of the district, the party of the representative, the education of the district, and the percent of Blacks in each district.

Table 1

Webpage

<i>Variable</i>	<i>B/MLE</i>	<i>Signif.</i>
Medage	-.1026	.0228**
Party	.7437	.0025***
Black	-.0083	.2628
College	.0489	.0033***

	Chi-Square	df	Significance
Model	25.739	4	.0000

Predicted correctly = 75.92%
 Naive predicted correctly = 50%

- ***. Significant at the .01 level
- ** . Significant at the 0.05 level.
- *. Significant at the 0.1 level.

The findings, as shown in Table 1, support all of the hypotheses. The correlation between median income and a college diploma was .790** so I used

only the education measure here. Congressional districts in which the citizens are more educated, have higher incomes, and have younger constituents are more likely to have representatives with web pages. In addition, party was shown to have an impact as well. Republican districts are more likely to have representatives with web pages than Democratic districts. This makes sense since the Republican party tends to represent the interests of groups with higher SES.

On a positive note, race was not shown to be a determinant of whether or not a representative has a web page. The percentage of blacks in a district, while negative, was not statistically significant. This finding is moderated somewhat by the fact that most minorities have a somewhat lower socioeconomic status than whites. What this variable does indicate is that there is no overt discrimination by representatives based strictly on race.

The model correctly predicted 75.92% of the cases. The naive prediction of having a web page is 50%. While that leaves a lot of unexplained variance, several factors are now known which help explain whether member of Congress have web pages or not. In the analysis there was some indication of "overlap" in which certain variables may be interrelated and measuring the same thing. Examples of this might be white collar jobs and median income or more education and equating with higher income and/or a white collar job. However, I would like to point out that even in cases where this overlap was present, the measured variable(s) remained statistically significant.

Table 2**E-mail**

<i>Variable</i>	<i>B/MLE</i>	<i>Signif.</i>
Medage	-.0214	.5836
Party	.1679	.4083
Black	-.0159	.0313**
College	.0344	.0074***

	Chi-Square	df	Significance
Model	17.448	4	.0016

Predicted correctly = 58.49%

Naive predicted correctly = 50%

***. Significant at the .01 level

** . Significant at the 0.05 level.

*. Significant at the 0.1 level.

Table 2 looks at whether or not a representative who has a web page also has an E-mail posting on that web page. In these findings, only a couple of the variables are still statistically significant. It appears that once a representative has gone through the trouble of setting up and maintaining a web page, there are no party or age effects from within his or her district determining whether or not they have an E-mail address. However, interestingly enough the percentage of black residents in the district has a statistically significant negative effect on E-mail. This is likely a manifestation of the disparity of SES within the district. Residents within the district with a college education or higher were positively associated

with the prevalence of an E-mail address. Once again, this is probably a result of higher SES.

Table 3

Number of Links

	<i>B</i>	<i>Std. Error</i>	<i>t</i>	<i>Sig.</i>
Constant	9.673	6.363	1.520	.129
Medage	.009437	.190	-.497	.620
Party	.325	.987	.330	.724
Black	.001690	.034	.501	.617
College	.131	.061	2.158	.031**

Model R square .011

** . Significant at the .05 level.

For the analysis of the number of links I used regression. As is apparent in Table 3, the number of links a representative has on his or her web page, if they have a web page, are relatively unaffected by any of the independent variables. It is likely that the number of links a representative has is based a great deal on personal preference. The only variable of significance was that of college or greater education. Representatives from districts with larger numbers of residents with higher education will have more links on their web pages.

There was one variable, however, that while not significant is fairly interesting, especially since I am looking at the total population rather than just a sample. That is the median age of the district. The direction seems to indicate that older the residents in the congressional district are, the fewer links are found on their representative's web page.

Conclusions

The type of district a Congressional representative comes from does make a difference as to whether she or he will have a web page. Districts which are higher in education, median income, and are younger and are more Republican are more likely to have a representative with a web page. What this means is that there is a socioeconomic bias in the availability of information resources to American citizens. From the standpoint of an "ideal" democratic society, this is viewed as unacceptable. Every citizen should have equal opportunity of access in interacting with the government. Certain citizens should not have a favored status over other citizens. While this ideal is impossible to achieve, these findings indicate that there is room for improvement.

The purpose of this research was to explain why certain members of the House of Representatives have web pages while others do not. The findings presented here have done that. While the model itself does not predict more than blind chance alone would (roughly 76% either way), blind chance offers no

explanation as to what factors in a congressional district significantly affect the chances that a representative from that district will have a web page. Because of this, the research presented here has humbly contributed to the understanding of Congress in a small but meaningful way.

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