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TITLE: An exploration of the effectiveness for the citizen of web-based systems of communicating UK parliamentary and devolved assembly information.

YEAR: 2002

Publisher citation: MARCELLA, R., BAXTER, G. and MOORE, N. 2002. An exploration of the effectiveness for the citizen of web-based systems of communicating UK parliamentary and devolved assembly information. Journal of government information [online], 29(6), pages 371-391. Available from: https://dx.doi.org/10.1016/j.jgi.2003.11.006

An exploration of the effectiveness for the citizen of Web-based systems of communicating UK parliamentary and devolved assembly information

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Abstract: This article reports on an exploratory study, funded by the UK Economic and Social Research Council, which investigated the impact of technology on the communication of parliamentary information to the general public. This study tested the application of a new data collection tool: an interactive, electronically assisted interview that was taken out across the UK as part of a pilot roadshow to organisations such as public libraries, community centers, sheltered accommodation and universities. Here, members of the public were invited to explore and respond to the Web sites of the UK Parliament, the Scottish Parliament and the National Assembly for Wales. During these sessions, online activities were recorded in a data transaction log, while search behavior and verbal responses were coded in a protocol analysis approach. The article provides full details of the results of these interactive interviews. They appear to indicate that the availability of information in readily accessible electronic form is insufficient alone to encourage citizen participation. Other motivators and forms of support are required in order to encourage and enable people to access, use and apply that information and to encourage them to use technology to interact with democracy.

Keywords: Information retrieval, Parliament, Legislation, Technology, United Kingdom

1. Introduction and background to the research

In recent years there has been a dynamic change in the ways in which the UK government envisages and increasingly realises communication with the citizen. This new vision has emerged from widely held notions of the "information society," more recently the "knowledge society," and of the role that information and communication technologies (ICTs) may play in facilitating, even encouraging, public interaction with and participation in democracy. The ethos of transparency and openness as desirable features of a model of sound government communication with the citizen, which would result in positive attitudes and greater involvement, came initially in Europe from the ideas expressed in the Sutherland Report, which found that the major obstacle to achieving consensus between Brussels and the European public lay less in the lack of information than in the lack of transparancy with which existing information was disseminated to the individual (Sutherland, 1992). Similar views are to be found in all developed societies, as signalled in 1997 with the announcement by Clinton and Gore that "for the first time in history, the White House will be connected to you [the citizens of the United States] via electronic mail," manifesting a belief that the electronic enablement of communication would support democracy. Such reports reflect a growing political belief that improved access by the public to information about government would enable those less well represented, and less inclined to participate, to find a voice (Policy Studies Institute, 1995; Consultative Steering Group on the Scottish Parliament, 1998). As a result of such theories, the UK Government has made a commitment to "information age government," with a promise that all government dealings with the public should be deliverable electronically by 2005 (Blair, 2000). The UK Government's strategic framework for e-government (Cabinet Office, 2000) emphasises the role of electronic networks in the achievement of an improved relationship between the Government and the people, through "trusted and respected institutions" such as public libraries and post offices (Howarth, 2001). A UK online citizen portal has also been established (Office of the e-Envoy, 2002a) as a single point of entry to government information services, although there is already a realisation that the exponential growth and wide diversity of government initiated Web sites has created a bewildering array of unco-ordinated opportunities for the information seeker. As a result, guidelines have been established to encourage greater standardisation of sites and to ensure that their content is "engaging, accessible and usable, providing information and services that users want" (Office of the e-Envoy, 2002b). While this constitutes welcome evidence that there is a need for a better understanding of the ways in which users might evaluate a government Web site, there has been, to date, little in the way of critical research into evaluation measures, nor of analysis of the theoretical base. How do we, therefore, test the validity of such theories, in the context of recently emerging evidence of decreasing involvement as shown by the very low levels of voter turnout at recent national, local and European elections in the UK (BBC, 1999; Gould, 2001; BBC, 2002).

The research project discussed here was carried out at a time of dramatic constitutional change in the UK: Scotland had recently elected its first Parliament in almost 300 years, with primary legislation and tax varying powers; Wales had established its own National Assembly, albeit less powerful than the Scottish Parliament; while the New Northern Ireland Assembly had ended over 20 years of direct rule from Westminster. The UK Government's Joint Consultative Committee with the Liberal Democrat Party (Liberal Democrat Party, 1998) stated four key principles of this new, devolved approach:

- the decentralisation of power from Westminster;
- the strengthening of the rights of every citizen through legislation;
- making government more open and accountable to the people; and
- making institutions more representative and accountable by reforming Parliament, cleaning up the financing of political parties and other measures.

The formation of the Scottish Parliament, in particular, has been seen as an ideal opportunity to introduce a new, more transparent style of government: '*...a new sort of democracy in Scotland... an open, accessible Parliament; a Parliament where power is shared with the people; where people are encouraged to*

participate in the policy process which affects all our lives; an accountable, visible Parliament...' (Consultative Steering Group on the Scottish Parliament, 1998).

2. Research approach

This article reports the results of an exploratory study, funded by the UK's Economic and Social Research Council (ESRC), which sought to gather data that would help to illuminate such questions, through the piloting of a user-centered research tool, gathering observational and attitudinal data simultaneously from users as they carried out searches on a UK parliamentary or devolved assembly Web site. This approach would give respondents the opportunity to explore and react to the Web site in a real-time search context, providing feedback on the attractiveness, accessibility and usability of the resource, while the simultaneous recording of transaction logs and their subsequent analysis would allow data to be collected that would record the process of the search and enable the evaluation of its effectiveness. In order to encourage participation, in particular by respondents from a number of groups deemed to be in danger of social exclusion as a result of their lack of access to and inability or reluctance to use ICTs – such as the elderly or members of minority ethnic groups – the interviews were to be carried out in a mobile, "roadshow"[1] environment, in physical settings which were close to the everyday lives of the population studied. Given that participants were not to be given a completely free choice of search topic, being directed to examine particular sites in the political domain, it was believed that standard usability measures such as precision and recall were inappropriate and the research design took a more open approach in seeking to elicit qualitative feedback from interviewees about the relevance, utility and attractiveness of the e-content, as well as the ease of use of the Web sites.

The study, therefore, drew largely on the work of those theorists who have sought to explore information seeking behavior from a phenomenological perspective, drawing upon sociological and ethnographic techniques, (see, for example, the work of Dervin (1997) and of Wilson and Walsh (1996) who tend towards the phenomenological, while acknowledging the significance of the broader context of the life situation of the *individual* and the context of needs other than the cognitive), rather than positivist survey tools or those that seek to quantify search success. In doing so, the authors acknowledge the unique qualities of each participant's experience, while seeking to draw more general themes from the collective record.

This open approach was thought to be valid, as it was believed that user evaluation measures built upon the concept of an information problem and its resolution via search activity were not meaningful in the context of the present research question, in that the current study sought to explore whether users would find UK parliamentary Web sites attractive, accessible and usable, in a situation where they had no existing information need that might be satisfied by visiting the Web site nor necessarily any independent motivation to do so. The research question revolved far more around the capacity of parliamentary Web-based information resources to have an impact on those who encountered the sites, rather than whether sites met a conventional information need. Such data help us understand the ways in which information availability impacts those who might connect with that information, the ways in which the experience or encounter will be evaluated and the extent to which the information encounter is likely to change attitudes and future behavior. Given the evidence that people feel more satisfied with institutions about which they are well informed (Moore, 1998) and that they are more inclined to be satisfied with those institutions with which they are most familiar (Mortimore, 2002), it would seem that these are significant areas for future research, where the ability to gather meaningful data must be developed further from practice currently.

[1] The authors are aware that, in the United States at least, the term "roadshow" can have a negative connotation. In the United Kingdom, however, the term is used frequently to describe public information dissemination events, and does not possess the same derisive qualities.

3 Research design

3.1 Project objectives

The objectives of the study were:

- to explore the benefits/drawbacks of technologically supported approaches to parliamentary information, in particular for those groups determined to be in danger of exclusion; and

- to develop and evaluate an interactive, electronic interview as a data collection tool employed in a roadshow environment.

3.2 Data collection

As the study involved the piloting of a new tool, the methodology has been very fully described and evaluated elsewhere (Marcella, Baxter & Moore, 2003). Interviews were carried out by a researcher, aboard a minibus equipped with a laptop computer and cellphone-based data transmission equipment, who assisted members of the public in exploring and responding to parliamentary and devolved Assembly Web sites. Roadshow events were conducted in England (in the Newcastle upon Tyne area), in Wales (the Cardiff area), and in Scotland (the Aberdeen area).

Data were collected from 79 members of the public who agreed to participate in an interview, during the course of which they carried out an exploration of one of three Web sites, i.e. the Web sites of the UK Parliament, the National Assembly for Wales, and the Scottish Parliament. Attracting participants was fundamental to the success of the approach, as those individuals who agreed to the interview had to be prepared to devote approximately 20 - 30 minutes of their time to the procedure. Not surprisingly, therefore, the researchers encountered a fairly high refusal rate, with many potential respondents expressing themselves "too busy" (44% of those refused) to participate. To exacerbate the situation, there were a significant number of those approached who were discouraged by the ostensibly political nature of the research, in which they were "not interested" (48% of those refused). However, of the 466 approached, 79 agreed to be involved, giving a response rate of 17%. This is similar to the response rate of 13% obtained by the Research Team during a previous survey of the general public, by extended doorstep interview (Marcella & Baxter, 2001); it falls far short of that achieved in earlier household surveys that proved influential to the current authors, such as those conducted in Baltimore, USA (64%; Warner, Murray & Palmour, 1973) and Sheffield, UK (87%; Beal, 1979). It is also significantly lower than the response rates that might be expected when conducting street or shopping mall interviews for market and opinion research purposes, which various observers suggest can range from 46% (Tull & Hawkins, 1993) to at least 70% (Proctor, 1997); although it should be noted that the market and opinion research sector has become increasingly concerned about survey refusals, which in the USA have grown from 19% in 1980 to almost 50% in 2001 (Sheppard, 2002).

In terms of the response to the roadshows, an accurate comparison with other, recent studies of the information needs or the information seeking behavior of the general public, particularly those relating to the use of electronic information resources, is difficult, largely because potential participants' refusal rates are often unspecified. What can be said, however, is that the number of participants in this present study (79) compares favorably with those in similar, practical studies of online behavior. Toms (1999), for example, used transaction logs and retrospective verbal protocols when examining the use of digital newspapers by 50 participants "solicited" from coffee shops, public libraries, universities and the local community net (these participants were compensated for their time); while, Light (2001), in part one of a three-part study of users'

responses to Web sites, videoed the think-aloud processes of 14 "target users" while they explored three Web sites concerned with the 1997 UK general election.

As is illustrated in Table 1, while a fair balance was achieved in terms of geography, age and gender, the approach was particularly successful in enabling interaction with the retired and students. This pattern was reflected in the high proportion with post-school educational qualifications (58%). Conversely, the approach was not particularly effective in reaching the disabled community, a failing which might readily be rectified by carrying out roadshows in settings known to be frequented to a greater extent by disabled people. Equally, the unemployed might have been better targeted via job clubs.

Take in Table 1

The interactive interviews were delivered via a series of 15 roadshows, which had been organised in collaboration with host organisations thought most likely to enable access to the public, such as public libraries, support centers for older citizens, community centers, advisory centers, and a mosque. Although promoted prior to the event, this appeared to have little impact on participation and all those who agreed to be interviewed were recruited by the researcher on the day of the event. Table 2 provides a brief overview of the host organisations, and the response rates obtained in each one.

Take in Table 2

3.3 Interview schedule

Before, during and after their period of exploration of the three parliamentary Web sites, each participant was asked a series of questions or prompted to provide qualitative feedback on the experience as it took place. A semi-structured interview schedule was therefore developed upon which the procedure was based. Table 3 illustrates the composition of the schedule.

Take in Table 3

Prompts to elicit commentary during the free form search periods were found to be necessary to a greater extent than had been suggested in the research literature (see, for example, Ericsson & Simon, 1993) with simple reminders to verbalise such as "Please, think aloud" and "Keep talking" proving relatively unproductive, even regarded as threatening by some respondents. Far more effective were prompts that naturally emerged from the Web material as this unfolded in the course of the exploration, asking what the respondent "thought of" the material, its relevance (or usefulness), comprehensibility and so on. In effect, a developmental and interactive discussion often took place, with particular Web site features eliciting further comment. It is, however, fair to say that the researcher took a more active role than anticipated in facilitating the interview process and that the role of the researcher became one of participant in the exploratory process, rather than of a purely independent observer, in a manner that is common practice in ethnographic research (Hammersley & Atkinson, 1983).

This pilot would suggest that the technique is particularly useful in encouraging a free-flowing conversation that may roam in unpredictable directions and that is particularly successful in encouraging the participant to open up about a variety of aspects of their experience. Respondents frequently used the roadshow as an opportunity to air their views on political and current issues and this kind of political verbalisation could not be excluded in any use of the technique, in that it is likely that, at any point in time, there will be incidents dominating the public consciousness. A number of interviews were conducted with two respondents simultaneously and this was a particularly effective way of encouraging responses by those nervous about the technology.

3.4 Data Recording and Analysis

Interviews were audiotaped to record verbalisations, while the search activities were recorded in a data transaction log, automatically generated using spIE software.

Data were analysed quantitatively and qualitatively. The data from closed questions were analysed using standard, statistical tools from the SPSS software package. The "think aloud" data from the free-form search periods were coded manually into 19 code categories, which emerged as the transcription progressed. The codes are designed to reflect the nature of the comments made and the behavior exhibited during search sessions by both the interviewee and the interviewer (see Appendix I for a full list of the protocol analysis codes).

Transcription and analysis may be on the basis of the frequency of verbal statements (Blackshaw & Fischhoff, 1988; Nahl & Tenopir, 1996) or on the time spent on particular protocols (Gilhooly & Green, 1996). In this present study, the latter option was chosen and, while the coding was comprehensive, transcription was selective, focusing on meaningful statements. Table 4 provides a snapshot of a transcription of an online session on the UK Parliament Web site.

Take in Table 4

Openly emerging data from the interviews and from the free-form search period were also analysed qualitatively in a textual theming and coding approach, in order that significant issues might emerge from the data and be grouped into broader classes of comment in order to enable discussion to take place and inferences to be drawn. All transcription and analysis activities were carried out by a member of the research team to ensure immersion in the data.

4 Results

4.1 Respondents' prior political experience

In order to determine the extent of interviewees' political participation, they were asked about their voting activities at European, national and regional levels. Sixty (87%) of the 79 respondents claimed to have voted at the 2001 UK General Election. This is a significantly higher proportion than the actual national turnout of 58%, which was the lowest since the First World War (Gould, 2001). Interviewees equally appear to have outpaced voting behavior at the Scottish Parliament and Welsh Assembly elections as well as at the 1999 European Parliamentary election, at which 59% of the present study claim to have voted, while only 23% of the population, in fact, did so (BBC, 1999). While the individuals studied may, indeed, be atypically active, the results may also have been affected by the self-selective nature of the sample. Alternatively, the results may demonstrate the tendency to over-report political activity, not uncommon in surveys.

One quarter of respondents (19 of 79) felt that they could describe themselves as politically participative in other ways and most of the forms of activity described revolved around informal discussion, with only 6 respondents engaging in campaigning or contacting political representatives. While this proportion may appear quite high by United States standards, the Research Team believe that it is not unrepresentative of the situation in the UK.

A similar number (20 of 79) had previously sought parliamentary or Assembly information. Sixteen had sought material on the UK Parliament, three on the National Assembly for Wales and six on the Scottish Parliament. Ten respondents had previously accessed parliamentary Web sites. The information sought related to: legislation (14 cases); constituencies and elected members (3); general interest (2); policy (1); parliamentary job vacancies (1); and student loans (1). Much of the material sought was required for educational reasons.

While data analysis showed a correlation between political activity and voting, there was interestingly no correlation between participatory activity and past need for parliamentary

information. However, given the relatively small numbers involved in the study it is not believed that a potential connection between the two activities can be discounted completely.

Forty-eight of the 79 respondents were regular computer users and overall three-quarters (60 of 79) used a computer on at least an occasional basis. Forty-seven respondents (59%) had previously used the Internet. While an accurate comparison with national levels of computer use is difficult, a recent survey established that 62% of adults in the UK have accessed the Internet at some time (Office for National Statistics, 2003). Nineteen participants were first-time computer users (all but one of whom were aged 55 or over), although it should be noted that the researchers believe that fear of the technology may have deterred a number of potential interviewees, even when this had not been stated explicitly as a reason for non-participation in the interviews. Eighty-five per cent of those who had used a computer found them very or quite easy to use.

4.2 Free-form information seeking

Just under half of the respondents (39 of 79) looked for information on a specific topic, while 33 browsed generally. Seven individuals browsed initially then focused on a specific search. The proportions were similar whether they were experienced or first time users.

Of the 46 who undertook a specific search, 18 selected one or more topics from a list of suggested topics, which had been prepared by the researchers for those interviews where respondents did not identify a subject of interest. The other 28 sought information on one or more topics of their own choice (see Table 5).

Take in Table 5

The interviewer did not direct subject choice, despite the fact that a parliamentary Web site might not have been the most obvious source for some of the freely chosen topics. Information was found on the majority of topics selected.

Participants expressed an interest in a range of both general and very specific topics. While a small number (5) looked initially for topics with local significance, generally relating to local public transport and planning issues, a significant proportion (21 of the 79), when prompted by the interviewer, sought information about their local Parliament or Assembly Member at some point during the search, despite the initial topic selected.

Significantly, 13 participants refused to use the mouse, preferring to delegate navigation to the interviewer. Of these, 11 were first-time computer users and 2 were occasional users; all were aged 45 or over.

The 76 online search sessions (6 individuals worked in pairs) varied considerably in length, ranging from 3 to 45 minutes, with an average of 17 minutes. Factors affecting duration included: the time that the respondent had to spare; level of interest in the information found; and data download times, which in a number of cases were significant demotivating factors.

Although the greatest proportion of online time (almost 20%) was devoted to using search engines, only 35 of the 76 searches involved any use of the search engine and those interviewees with highly specific searches spent disproportionately long on this activity. Respondents also spent significant periods (13%) on Home Pages exploring site content. Other popular areas included education, information about elected Members, and news sections. Table 6 illustrates the types of pages/sections visited by most participants (this table excludes the Web sites' Home Pages, which were used as the starting points for all of the online sessions).

Take in Table 6

4.3 Protocol analysis of search behavior

Figure 1 provides a summary of the results of the protocol analysis of the free-form search periods undertaken by the 79 respondents.

Take in Figure 1

The emphasis, as demonstrated in the protocol analysis, is very much related to the respondents' need for support in navigation, with 23% of search time consisting of the interviewer providing navigational instructions and advice, compared with only 12% of unassisted search formulation on the part of the interviewee. These were the two protocols that occupied most of the think-aloud narrative.

Experienced computer users, as might be anticipated, tended to be less reliant on advice and guidance from the interviewer. Of the 37 respondents whose protocols occupied 60% or more of the time online, 31 were regular computer users; while of the 42 interviewees whose protocols occupied less than 60% of the time, only 17 were experienced.

4.4 User search characteristics

A number of interesting findings emerged from the protocol analysis.

Users frequently combined a specific search with general browsing activity. The time spent in formulating specific searches ranged from just under one minute for a basic search to over 31 minutes for a highly specific search. Queries made on the Web sites' internal search engines were less successful than those conducted via Web site menu structures, in terms of users' ultimate ability to locate relevant material. Searches were conducted largely via keywords, with some use of limiters, such as date or type of document, often with respondents displaying no understanding of the significance of the latter.

Searches tended to result in unmanageable numbers of hits, through which users began to browse but quickly became dissatisfied and discontinued the search.

Not unexpectedly, respondents experienced in using ICTs required less interviewer input in formulation and execution of searches, while inexperienced computer users required interviewer guidance on a variety of features, such as use of the scroll-bar or the nature of hypertext links. Perhaps predictably, users tended not to consult online search help facilities, whatever their level of experience with the technology. However, the presence of the interviewer, regarded as an expert, may also have inhibited such approaches. Equally, searchers tended not to use the full search functionality available to them – only one used Boolean operators – and were unfamiliar with phrase matching.

Much of the online time (13%) was spent by users reading aloud or internally and digesting the predominantly text-based information presented. The frequency of excessively large documents (many in Portable Document Format), with correspondingly long download times, discouraged users. The Scottish Parliament Web site search engine proved particularly frustrating for users: in a feature untypical of most search engines, it automatically sought exact phrase matches for any two keywords entered together, resulting in very low numbers of hits.

Respondents frequently made qualitative comments about the nature and content of the Web sites visited. Positive comments were made about the quantity and usefulness of the information available, the ease of use (for adult users) of the sections aimed at young people, the detailed material available on some topics and the ability to e-mail an elected member. Negative

comments were made about Web site design features, the legibility of text, the poor structure of sites, and broken and interrupted hypertext links.

Users took advantage of the roadshow interviews to discuss broader political issues and current issues of concern, such as the Government, the new Parliament and Assembly buildings, and political participation. There was an unanticipated, yet significant, regional variation in the extent to which respondents spoke freely of the wider political environment, with Welsh (15 of 27) and Scottish (16 of 28) respondents more likely to do so than English (only 3 of 24). This would suggest that the roadshow approach has additional potential in eliciting such data. Equally, many respondents freely contributed personal information about their past use of computers, their newspaper reading habits, education, career choices and so on.

4.5 Evaluative feedback on parliamentary Web sites

Overall, 68 of the 79 participants believed that the Web site they examined was a useful information source and served a useful purpose. Various themes underpinned this sense of value: depth of information coverage (15 cases); reliability of information (13); ease of access (12); that this represented "the way ahead" (8); supporting education (3); and encouraging political interaction (2). Eight participants were concerned, however, about the means and costs of access; four believed the approach was more suited to younger people; and one person preferred the media as a source. Two participants expressed the opinion that the information was boring; two that it was of little interest to "ordinary people"; and six expressed dissatisfaction with search functionality.

In terms of ease of use, all three sites were rated favorably (the Scottish Parliament site was particularly highly rated). Of the 19 first-time computer users, 17 responded that the Web site had been easy to use. Equally, of the 32 participants aged 55 and over, only four recorded difficulties. However, it should be noted that the interviewer had, of necessity, played a more active role with many first-time users and older participants.

Sixty-one of the 79 participants noted that the retrieved information had been interesting (fewer for the UK Parliament site). Sixty-nine of the 79 found the retrieved information easy to understand, with the best ratings recorded for the Scottish Parliament Web site. Only 43 of the 79 respondents expressed the view that the retrieved information was relevant to their lives; 36 indicated that it was irrelevant (the UK Parliament site ranked least relevant).

When asked how they would go about finding more information on their chosen topics, respondents gave a range of responses (see Table 7).

Take in Table 7

Web sources were cited by 29 of the 46 participants who might search for further information, with 18 citing **only** online sources. Sixty-one of the 79 participants said they would use the parliamentary Web site again, suggesting that roadshow exposure might change behavior: however, only 10 of the 19 first-time computer users would do so. Various reasons for possible future visits were given, including: to support studies (16); to expand on media reports (6); work-related reasons (5); in relation to a personal problem or issue (5); jobseeking (1); pursuing environmental interests (1); and for local interest (1). Only three participants cited political reasons: to support an interest in politics (1); to aid voting decisions (1); and to "harass Welsh Assembly members" (1).

Participants saw the advantages of electronic access as: overcoming mobility problems; keeping up with other family members; as materials became less available in print; and improved access for rural communities. For those who would be unwilling to visit the parliamentary sites again the following factors were influential: lack of interest in politics (7); lack of interest in ICTs (2);

lack of access to a computer (3, all retired); and an existing surfeit of information about politics (1).

5 Discussion of findings

Web-based systems of communication rely on active information seeking processes being initiated by the potential user. Their designers may enhance the likelihood of the information seeker happening upon the site by using mechanisms to ensure that their sites are ranked highly by search engines, or by building on connections from other frequently visited sites. However, ultimately when a site is aimed at the whole of a nation's population, rather than a targeted segment and when that audience has little or no active desire to visit a Web site or to seek the kind of information that it is likely to contain, then electronic communication media may be deemed a less significant strand of governmental communication policy than very traditional approaches, such as the posted leaflet or the billboard strategically placed adjacent to a bus stop, where the desired audience (or part of it) are exposed, whatever their inclinations, to the information contained therein. However relevant or useful the Web site's content might be, the technology does not have the power to drive that content to its audience or to ensure interaction with the audience, unless it is linked to a use of email, which has hitherto only been adopted by commercial companies, in circumstances often deemed unacceptable by recipients. However, strategic use of email is being used increasingly by reputable companies, such as Amazon, to send messages to their existing customer base.

It is perhaps partially this realisation of its limitations that has led to a lessening of conviction that the Internet offers meaningful opportunities to enhance democracy as presently configured. Given the desirability of two-way interactive government-citizen communication, new paradigms of Web use must be developed based on a more robust understanding of the user's behavior in the virtual environment. The computerisation of government activities will not, in itself, ensure a more equable, inclusive and democratic societal debate, without their better alignment with the citizen's life situation.

To some of those participating in the present study, and hypothetically to many of those who declined to participate, the technology itself remains inaccessible and/or a deterrent. In addition to those who simply would not have attempted a search without the intervention and support of the interviewer, there were many who found the hardware difficult to handle and the software "inexplicable." Typically, help and navigational devices, as presently offered, appear not to be a natural recourse for those encountering difficulties and there are many points in a search where the user may find him or herself too demotivated by technological problems to continue. There was little understanding of how the information was ordered and of the means available to retrieve information, with concepts such as Boolean logic alien to the majority of respondents. There was little sense that those exploring the Web sites knew what was happening, far less why.

Despite such failings, most of those who engaged in an exploration of a parliamentary Web site expressed positive feelings about the experience and indicated that they would be likely to approach such Web sites again, despite the fact that only a small minority had done so in the past. It might, therefore, be hypothesised that exposure to Web information in a situation where support is available is likely to increase users' awareness of the value of that information in their own life contexts. High profile marketing campaigns, such as that presently broadcast on television in the UK, are less likely to change attitudes amongst the uninitiated than such individually focused experience.

It may be useful to consider a model whereby engagement of the user with a Web site is predicated on the successful achievement of a number of stages. The following exploratory attempt draws upon modelling approaches in marketing and information, to characterise some of the unique characteristics of the Web environment.

Take in Figure 2

However, there are significant deterrents, at play at all of these stages, which must be overcome if the user is to be persuaded to stay the course through to the conclusion of the process.

Take in Figure 3

6 Conclusions

Although the present project was a pilot and its findings should, therefore, be regarded with caution, the results appear to indicate that the availability of information in readily accessible electronic form is not enough alone to encourage citizen participation. Other motivators and forms of support are required in order to encourage and enable people to access, use and apply that information and to encourage them to use ICTs to interact with democracy.

The model of parliamentary information communication to the public is one where two-way interaction is desirable, yet where the public may be unaware of or disinterested in such interaction. The issue of relevance is the single most significant factor in impacting user behavior. In order to encourage participation, communications via ICTs must visibly enable meaningful and useful interaction that is relevant to citizens' everyday lives, while excluding or minimising deterrents.

Results also suggest that supported exposure to parliamentary Web sites may cause individuals to change behavior and develop new perspectives on the value of such information (and potentially on the value of the institutions about which the information was provided) and that the roadshow concept is a valuable vehicle via which to enable such exposure while simultaneously gathering further data about user behaviors, attitudes and needs.

The model of user engagement with Web-based information proposed in this paper is one that requires a good deal of further testing and development but which may have merit for future studies that seek to explore Web interaction in a thoughtful and critical way.

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APPENDIX I: PROTOCOL ANALYSIS CODES

Twelve interviewee codes with an IE prefix were assigned:-

IE Search. When the interviewee had structured a search, with little or no assistance or guidance from the interviewer.

IE Browse. The interviewee had no specific search outcome in mind, but simply browsed the Web site.

IE Navigate. The interviewee asked navigational questions or questions about the Web site's structure.

IE Read aloud. The interviewee read aloud the contents of a particular page of the Web site.

IE Read internal. The interviewee read the contents of a particular page of the Web site 'internally'.

IE Positive. The interviewee made a positive qualitative comment about the content or particular design features of the Web site.

IE Negative. The interviewee made a negative qualitative comment about the content or particular design features of the Web site.

IE Parliament. The interviewee made comments on, or asked questions about, parliamentary procedure or terminology.

IE IT. The interviewee made comments on, or asked questions about, the software and hardware being used, or computers and the Internet in general.

IE Project. The interviewee asked questions about, or commented on, the research project.

IE Political. The interviewee voiced his/her opinions on particular political and current issues.

IE Personal. The interviewee gave personal information, relating to work or study experiences, previous use of computers, or to a specific life incident.

Six interviewer codes with an IR prefix were assigned:-

IR Search. The interviewer provided the interviewee with specific instructions or advice on formulating a search.

IR Navigate. The interviewer provided specific navigational instructions or advice, or answered questions on Web site structure.

IR Question. The interviewer asked questions when the interviewee failed to maintain a constant verbal report of their thoughts and actions, or when a specific matter of interest arose during the search.

IR Parliament. The interviewer provided an explanation of parliamentary procedure or terminology.

IR IT. The interviewer provided an explanation of, or answered questions on, the technology used in the project, or on computers and the Internet in general.

IR Project. The interviewer provided further details of the research project.

The last of the 19 codes is **Interruptions**, indicating that the interview was interrupted. These may have been verbal, by the interviewee's family or friends or other individuals; or they may have been for technical reasons.

Table 2: Host organisations			
Host organisation	**Participants No.**	**%**	**Pen portrait of organisation**
Roadshows in England			
Gateshead Central Library	5	15	Gateshead has a large orthodox Jewish community. The roadshow was held in the reference department of the Central Library.
Age Concern, Newcastle	7	20	A support agency for older people. The event took place in their café, where two computers with Internet access had just been installed.
Sure Start, Newcastle	5	42	A social development initiative, aimed at disadvantaged parents and children. The roadshow formed part of a "family fun day" held at the programme's headquarters.
Park Road Community Centre, Newcastle	1	3	A center located in Cruddas Park, an area with one of the highest proportions of ethnic minority groups in Newcastle.
University of Northumbria	6	33	The event was held in the Learning Resources Centre, supporting the Faculty of Health, Social Work and Education.
Roadshows in Wales			
Rumney Library, Cardiff	5	24	Located in an area with a high proportion of older residents, this library hosts an Age Concern Good Neighbours Scheme.
Grangetown Library, Cardiff	3	14	Caters for the large Asian community in the area, and is also a Welsh Assembly Information Link library, providing access to Assembly publications.
Rhiwbina Library, Cardiff	6	15	The busiest branch library in Cardiff
Senior Health Shop, Barry	4	16	An Age Concern project aimed at promoting better health in later life. The roadshow took place in the snack bar.
Cardiff University	9	16	The event was held within the Arts and Social Studies Resource Centre.
Roadshows in Scotland			
Bressay Brae Sheltered Housing Complex, Aberdeen	3	15	A complex for older people operated by a non-profit making housing co-operative. Its common room was about to take delivery of a computer with Internet access.
Inverurie Library, Aberdeenshire	11	27	A Scottish Parliament Partner Library, providing access to parliamentary publications and information, and chosen because of its rural location.
University of Aberdeen	9	10	Event held in the Taylor Library, which houses UK and Scottish official publications and a European Documentation Centre.
Aberdeen Mosque	2	17	The roadshow took place between the final two prayer sessions of the day.
Kincorth Library, Aberdeen	3	23	A Scottish Parliament Partner Library. In the week prior to the roadshow it had hosted an exhibition about the Parliament.

Table 3: **Interview schedule**	
Nature of questioning	**Variables**
Demographic characteristics	Age, gender, ethnicity, disability, location, employment status, educational attainment
Prior need for and use of parliamentary and devolved assembly information	Familiarity with institutions, their role and nature, information seeking behavior
Levels of political engagement	Activity, participation, citizenship
Experience with technology	Capacity, need for support
Free-form period of Web site exploration	Protocol analysis based on 19 emergent codes – nature of activity, capacity with technology and approaches to searching and navigation
Qualitative feedback on search utilising prompts	Think-aloud process – user friendliness of system, relevance, attractiveness and utility of content, relationship with life situations, political comment
Post-exploration structured questions on aspects of site performance and content	User-friendliness, relevance, comprehensibility of information found and predicted future information seeking activities

Table 4: Snapshot of a transcription	
Tape Counter	**Coding, Quotes and Notes**
11	**IE Browse** "We'll try general information, shall we?"
12-17	**IR IT** Explanation of Internet Explorer status bar
18	**IE Browse** "We'll try Records Held"
19-23	**IR Navigate** Hyperlink wouldn't work
24-28	**IE Personal** "I could have used this when I was working. I was a department secretary and librarian. We had to find out all sorts of research things."
29-33	**IR Navigate** To go back to previous screen... try hyperlinks again.
34	**IR Question** Impressions of overall design?
35	**IE Positive** "Yes, quite attractive"
36-38	**IE Read internal**
39	**IR Question** Is this the sort of information you were hoping to find?
40-45	**IE Negative** "Yes, but it would have been useful to find out what sort of records they have. [Discussing location of House of Lords Record Office] That's just a description of how to get there, I thought they might have had a map."
46-47	**IE Read internal** [Then selected House of Lords Record Office Annual Report in PDF]
48-57	**IR IT** Explanation of Internet Explorer hour-glass and spinning globe. Explanation of PDF download times.
58-59	**IR Navigate** It's a 36-page document. This tells you that we're on page 1.
60-65	**IE Browse** "We don't want 36 pages. It's just to see what it is..."

Table 5: Users' search topics			
Topics from researchers' list	**No.**	**Freely chosen topics**	**No.**
Student tuition fees	6	Specific pieces of legislation	7
Hospital waiting lists	3	Business and economic development	5
Foot and Mouth outbreak	2	Arts and cultural issues	3
Long-term care for the elderly	2	Costs of new parliamentary buildings	3
Pensions and welfare benefits	2	Local planning issues	3
Public transport	2	Educational issues	2
Equal opportunities	1	Employment and training opportunities	2
Single European Currency	1	Registered interests of elected members	2
		Responsibilities of devolved legislatures	2
		Crime and security issues	1
		Health issues	1
		Media-related issues	1
		Reactions to September 11th	1

Table 6: Types of pages/sections visited by most participants

Page/section type	No. of respondents
Search engines	35
Information on elected Members	21
News pages	21
General information about Parliament/Assembly	19
Pages aimed at young people and teachers	19
General pages on publications available online	12
Indexes and site maps	12
Information on new parliamentary buildings	10

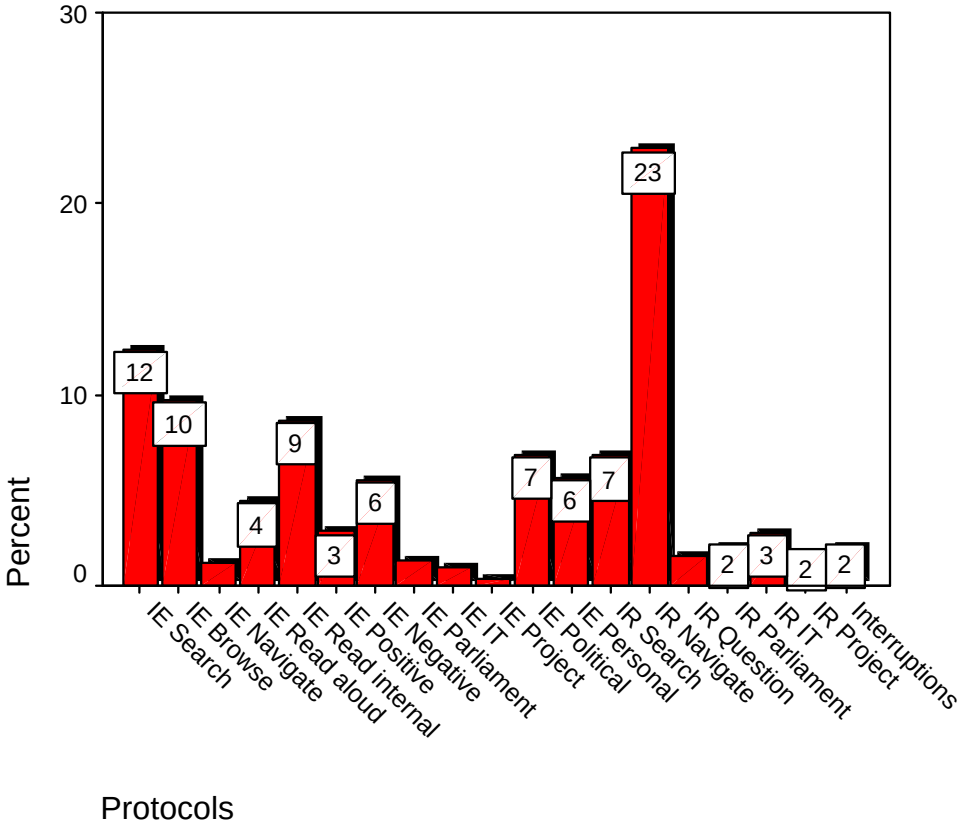

Figure 1: Protocol analysis: percentage of search time (see Appendix I for details of protocol codes)

Table 7: Future political information seeking

Likely source	No. of respondents
Go back to the parliamentary Web site	19
Approach Assembly Members or the Assembly directly	10 (all in Wales)
Use a general search engine	10
Consult the media (including Web sites)	6
Approach local government officials or elected Members	5
Use libraries	5
Approach other governmental Web sites	4
Telephone subject experts	2
Approach political parties' Web sites	1
Approach interest groups' Web sites	1

Figure 2: Model of user engagement with Internet resources

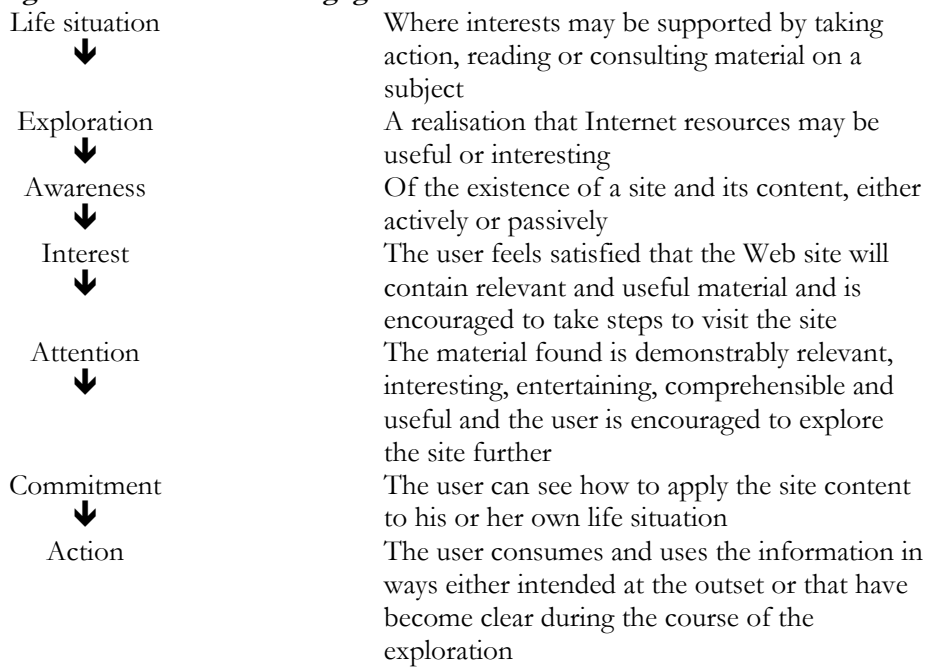

Figure 3: Deterrents to use

Fear	of the technology
Antipathy	to the subject matter
Acquired biases	about the nature of government, bureaucracy and political engagement
Boredom	if the process appears difficult, slow, incomprehensible and irrelevant
Dissonance	if the information does not gel with the user's own experiences or attitudes
Helplessness	or a loss of faith in his or her capacity to continue
Lack of trust	in the information provided or the motives of the providers.