e-government

OFMDFM Review of Public Administration Research Briefing Paper

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The views in this report are those of the author and are not to be attributed to the Review of Public Administration team or the Office of the First Minister/Deputy First Minister.

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e-government involves using the power of information and communication technology (ICT) to help transform the accessibility, quality and cost-effectiveness of public services and to help revitalise the relationship between citizens and Government through improved consultation and participation in government. The principal ICT is the Internet, accessible primarily through personal computers and other related technology.

2. e-government in context

The potential of ICT has encouraged a view that it can transform government generally and renew democracy. Some of these views may be exaggerated but there are strong possibilities.

2.1 e-government worldwide

Many governments internationally have already developed some of the potential of e-government. On various international measures, the USA leads the way internationally but the UK is among the leaders in Europe.

There are aspects of the general "modernising government" programme in the UK, and of related newer policies for service delivery, that place emphasis on consultation and provide a particular opportunity for e-government. General interest in e-government is reflected in a very large number of reports from Government and other bodies.

2.2 e-government in Northern Ireland

Aspects of the general UK context pertain in Northern Ireland, where the Central Information Technology Unit in OFM/DFM (CITUNI) and others have developed strategies that have been endorsed in the Programme for Government. There are also particular opportunities for using ICT in a consultation role in relation not only to duties under S. 75 of the Northern Ireland Act 1998 but many of the other aspects of the "consultation culture" that has developed in the new governance structures here.

2.2.1 The Republic of Ireland dimension

Experience in the Republic of Ireland is fairly advanced. Developments there have followed an "e-knowledge" model, emphasising knowledge to stimulate economic re-generation as opposed to the "e-services" model of the UK and NI, which stresses delivery of government by electronic means. This may indicate that other models of e-government are available and these may have some application in the context of Northern Ireland.

3. Online Services: Issues and Challenges

Delivery of a variety of services online in Northern Ireland presents various challenges and opportunities.

3.1 Organisational implications of putting services online

The development of services online is an evolutionary process which moves from simple information publishing, through more complex transactional interactions, to fully interactive, zero-touch technologies which have the potential to transform how government is conducted. As online services develop, departmental crosscutting will increase to a point where eventually fully integrated online services may challenge the traditional organisation of Government Departments. In particular, the Government Gateway, which provides the overall architecture for all online development in the UK, may well require the erosion of established boundaries, both within Government itself and in wider governance structures - if the technology proves workable.

3.2 Additional technical and legal issues

There are also a number of other detailed issues centring on common technical standards and on legal issues of privacy, authentication and security which require further investigation.

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Introducing an electronic equivalent to existing structures for service delivery will not necessarily improve their openness or accessibility. There are a number of assessments of existing practice and good practice guides which are of particular value in developing new systems. There may be particular opportunities for rural communities in Northern Ireland to benefit from online services but there is little evidence that ICT use in NI is at a level where take-up will be high. Training and facilitation will be required to ensure an even take up of online services across all groups in society.

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5. Conclusion

e-government is a rapidly evolving area which offers potential both in the provision of services online and in improving consultation. It may even transform the organisation of Government. Northern Ireland stands to benefit from e-government, particularly as it may enhance consultation processes. There is significant international experience to indicate what is best amongst good practice and this should inform future developments.

1. Introduction: what is e-government?

e-government involves using the power of information and communication technology (ICT) to help transform the accessibility, quality and cost-effectiveness of public services and to help to revitalise the relationship between citizens and government through improved consultation and participation in governance.

The principal ICT is the Internet, accessible through a variety of means including personal computers and kiosks, mobile phones including text messaging (SMS), and digital television.

Definitions of e-government usually focus primarily on the government-citizen interface and do not normally extend to the details of how government communicates with itself and those other public bodies that are involved in wider governance processes. However the way in which government itself is linked up, including the proposed Masternet initiative, will affect how it responds to the citizen/consumer of services. In turn, choices about how to connect with the public have the potential to affect radically how government is structured. There is also the issue of e-voting which catches headlines in the media. Some pilot trials have been carried out in the UK and elsewhere on online voting as an additional means of registering political preference. The potential of ICT here is, however, relatively modest compared to its primary applications in government. These primary applications can be described further under two headings as

- The provision of services on-line
- Improved mechanisms of consultation

It is on these two aspects that this paper focuses. After outlining the general context in which e-government is developing, the paper examines on-line services in terms of the issues and challenges involved in transforming the delivery of government to citizens. Attention is then given to the role of e-government in consultation processes where the range of existing models is examined and best practice discussed. The emphasis throughout is less on the technical issues surrounding e-government and more on putting the particular requirements of Northern Ireland within the general context of developments and experience elsewhere. The aim is to identify challenges and opportunities facing the development of e-government in Northern Ireland and to stimulate thinking by outlining some of the major research issues in the area.

2. e-government in context

It is easy to overstate the potential of e-government. Some enthusiasts offer a vision that can come only from the pages of science fiction envisaging an electronic town hall which organises perpetual popularity polls on personalities and policies, and where citizens command government services with the touch of a button. Such a view is, fortunately, as technologically unfeasible as it may be politically undesirable. However, ICT does have several characteristics which are of particular value to government.

Personal computers and the Internet are reasonably widely and freely available to the public (either directly to citizens at home or via sponsored sites). They are available at times convenient to the user and to groups that may be otherwise isolated by distance. These qualities facilitate information dissemination and the conduct of various government-citizen transactions such as licensing, tax returns etc. In this way the provision of public services online may be thought to have the potential to offer a new level of openness in the operation of government along with levels of convenience in public services that are at least as good as those in the private sector where the internet is available routinely as an additional route for collecting information and accessing various services.

In addition, computer networks are good at storing, manipulating and quickly transmitting data. They can support improved processes of consultation, combining innovations in participation techniques with innovative applications of ICT. They therefore have the potential to facilitate deeper and more sophisticated consultation between Government, groups and citizens. This introduces the idea of ICT having a role in reinvigorating democracy. Such a role extends well beyond simply electronic voting where results and indeed ambitions remain relatively modest.[1] It encompasses improving democratic decision-making by facilitating consultation and enhancing deliberation and links in wider ideas about reinvigorating democracy along "Third Way" lines as endorsed by the Prime Minister.[2]

2.1 e-government world-wide

This potential has led many countries to develop e-government. There is a web page at http://www.gksoft.com/govt/en/ linking governments across the world who are on the world wide web. There are also a number of surveys and evaluations of government websites. The Cyberspace Policy Research Group (CyPRG) has tracked the spread and

deployment of the web in 192 governments around the world since 1996 and established a comprehensive database of national public agency websites which can be accessed online.[3]

This research suggests that the United Kingdom and the USA are leaders in the number of webbed agencies but other strongly webbed governments include those of such diverse countries as India, Israel, Taiwan, Australia, Canada and Estonia. Within Europe the UK is heaviest user of the web in government, followed by Luxembourg, France and Italy. Individual countries maintain various e-government targets. In the USA the e-government deadline is November 2003 and the EU requires that member states should offer electronic access to basic services by the end of this year. Some countries have achieved much more than this already. In a major survey testing the "on-line maturity" of 23 countries carried out by the management consultancy Accenture, Canada was placed top followed by Singapore, the USA, Australia and Denmark and the UK.[4] Another study by the United Nations and the American Society for Public Administration,[5] benchmarks e-government by calculating values on an "e-government index" produced by combining indicators for web presence, infrastructure, and human capital. This places the UK seventh world wide (where the USA leads with a score of 3.11) and second behind Norway in Europe with a score of 2.52 compared to an average of 2.01.

The European Union generally has embraced the Internet enthusiastically by posting on line a great deal of material showing its operations, processes and decisions.[6] In the initiative covered by *European Governance: A White Paper* (2001), the European Commission has endorsed the role of ICT in engaging with the issue of democratic deficit in relation to governments generally and the institutions of the European Union in particular. The White Paper announces a new framework for co-operation on information and communication policies, endorsing the need to build partnerships to encourage involvement in policy shaping, greater flexibility with regard to local conditions and overall policy coherence. It recognises that "information and communication technologies have an important role" and promises that the EU's EUROPA website (www.europa.eu.int) will "evolve into an inter-active platform for information, feedback and debate, linking parallel networks across the Union".

In the UK generally there is a high level of interest in e-government. The general programme of modernisation outlined in the White Paper *Modernising government* (1999) puts a particular emphasis on "Information Age Government". This has been

endorsed in the second phase of modernisation set out in *Reforming our Public Services: Principles in Practice* (2002). The role of the E-envoy within the Cabinet Office in promoting e-government and moving government towards its target of having 100% of key services online by 2005 is significant. Many of the detailed aspects of the general Modernisation of Government programme also connect strongly with e-government. Government has identified UK Online as the key driver in transforming the way in which public services are organised and delivered, and in leading the drive to better integration of government services. Also, the consultation aspect of e-government is particularly important in the context of many newer policies. Ideas about community leadership duties contained in the Local Government Act 2000 (and proposals outlined in the recent White Paper *Strong Local Leadership – Quality Services)* put an emphasis on articulating and developing a vision for the community to be obtained after extensive dialogue and consultation. The Best Value regime also involves commitment to consult all sections of the local community on key best value priorities and there are e-procurement possibilities in the contracting out context. More directly, £350 million has been allocated to Local Government Online funding. Targets have been set within public service agreements and, for example, the Best Value Performance Indicator (BVPI 157) provides measures of progress for local authorities in meeting e-government targets where crucially one of transactions identified as suitable for delivery in electronic form is consultation.

In addition there have been a number of important documents and reports from Government as well as non-government sources (such as notably the Hansard Society) which are setting the e-government agenda at a fairly high level of achievement. 2002 *alone* has seen a series of important reports including:

- National Audit Office, *Government on the Web II*
- Audit Commission, *Better Public Services through E-Government*,
- Audit Commission, *Councils and E-Government*
- SOCITM*, Better Connected 2002?*
- SOCITM and IDEA, *Local e-government Now: A World Wide View*
- Improvement and Development Agency, *Local E-Government Now, 2002*
- DTLR, *e-gov @ local*
- IPPR, *e-participation in Local Government*
- OGC/Office of e-Envoy, *In the Service of Democracy: A consultation paper on a policy for electronic democracy*
- Electoral Commission, *Modernising elections: a strategic evaluation of the 2002 electoral pilot schemes*
- Hansard Society, *Technology: Enhancing Representative Democracy in the UK*

Furthermore, these reports have been produced in a context where private sector companies such as Compaq, Kable, Oracle, IBM etc. have a growing interest in Government as a customer which might augment the dwindling returns now available from the financial sector. This interest has been expressed in an increasing series of magazines, exhibitions, awards, conferences and other events.

2.2 e-government in Northern Ireland

Aspects of this general context pertain also in Northern Ireland. There are particular features also. The Central Information Technology Unit (Northern Ireland), (CITUNI), established in 1997 and now part of the Office of the First Minister and Deputy First Minister, has lead responsibility for promoting, monitoring and reporting on Electronic Government in Northern Ireland. CITUNI has produced a vision which is

> *"To ensure that the public service in Northern Ireland is among the world leaders in effective exploitation of new and emerging Information and Communication Technologies for the delivery of services to the public"*

Within its overall vision, CITUNI's mission is *"To deliver in Northern Ireland the Executive's vision for electronic service delivery"*.

Information technology has been identified as an important element generally in Northern Ireland. The Information Age Initiative, through its action plan *Leapfrog to the Information Age* outlined in 2000, articulated a strategy to develop a knowledge based economy in NI and called for joined up e-government. In July 2001, the Executive Committee endorsed targets for electronic service delivery for Northern Ireland Departments so that by the end of 2002, 25% of all key services should be capable of being delivered electronically (and this is reported as being on target). 100% of key services should be online by 2005. This vision is consistent with broader aims, particularly with section 7 of the Programme for Government and the role of e-government as a "key enabler" in the Working Together section of *The Programme for Government*. CITUNI has produced a *Corporate Strategic Framework for delivering government services electronically in Northern Ireland*. This talks in terms of high quality, electronic government services for those who wish to use them, based on four fundamental principles of Choice, Convenience, Simplicity and Inclusiveness. This is being pursued through the development of OnlineNI and the work of the inter-

departmental e-Government Project Board. In this way it seems likely that the general UK targets in relation to service delivery will be met in Northern Ireland.

There is, however, also the particular agenda of consultation. As mentioned above, this has come to the fore in the UK generally through the extensive Modernisation of Government programme and in the range of governance mechanisms that stress measuring performance outputs in client communities and emphasise partnership structures characterised by dialogue and communication. Not all the details of this modernisation programme - particularly those relating to local government - translate directly to Northern Ireland. However, many do and consultation is thus high on the agenda. In addition there is particular emphasis in Northern Ireland on a governance style based on partnership and consultation. This is at the core of many aspects of the new political dispensation.[7] Duties under S.75 of the Northern Ireland Act 1998 represent perhaps only the most obvious examples of a wider consultation culture. This centres on PSA measures, equality indicators and evaluations of needs within new TSN that sometimes threaten to overload governance mechanisms and produce consultation fatigue. There is perhaps a particular opportunity here for e-government and Part Four of this report considers the issues involved in e-consultation more fully.

2.2.1 The Republic of Ireland Dimension

The position of e-government in the Republic of Ireland is an additional aspect of the context for Northern Ireland that requires consideration. Developments in e-government in the Republic of Ireland are entirely separate from those in Northern Ireland without any links between http://www.irelgov.ie and http://www.nics.gov.uk sites. However, the development of e-government in the Republic of Ireland is quite advanced. In the UN and ASPA benchmarking study mentioned above it falls within the "High e-government capacity" category and scores 2.16 in the global benchmarking ranking. The system in the Republic of Ireland is organised around life events such as moving house, and there is potential for personalised portals. The *Reach* programme, working towards a single gateway to online government services, and *Basis,* which offers business access to state information and services, are particular features as is the e-procurement site and services such as land registry.

Interestingly, e-government in the Republic overall does seem to have a particular focus on business and commercial applications. This character is perhaps

significant. The SOCITM and IDEA, *Local e-government Now: A World Wide View* report produced in 2002 characterises e-government development as falling into three broad categories: "**e-services**", concerned with securing and providing government services by electronic means; "**e-governance**", concerned with linking up citizens stakeholders and elected representatives to participate in the governance of communities; and "**e-knowledge**" where the emphasis is on developing the skills and ICT infrastructure to exploit knowledge for competitive advantage. The Republic of Ireland (along with Brazil, Hong Kong and Singapore) is characterised particularly as having an "e-knowledge" quality with the emphasis on community based economic and social regeneration. The UK meanwhile is characterised as being within an e-services model. Clearly there is an issue about whether it is correct in the conditions of Northern Ireland, with its aspirations for a knowledge-based economy, to follow the "e-services" or "e-knowledge" approach as in the Republic of Ireland. Indeed there may even be a case for inquiring whether indeed an "e-governance" approach, concerned with developing social contacts and emphasising communication, might not have particular application too - especially in light of the consultation issues and that are characteristic of the governance structures here.

3. Online Services: Issues and Challenges

This section focuses on online services. Various stages in the evolutionary development of e-government service provision are outlined. The organisational consequences for Government of this evolution are considered. Particular factors relating to the architecture of UK Online are considered as well as some smaller-scale technical and legal issues. Attention then turns to reviewing the possible advantages of offering services online in Northern Ireland on the basis not only of straightforward financial cost and possible convenience but also in terms of openness and democratic value. A number of indices and guidelines representing best practice internationally are reviewed.

3.1 Organisational implications of putting services online

The development of websites is an evolutionary process. The rate of evolutionary progress depends on complex factors including much more than the technology and Appendix A reports worldwide research indicating generally how websites in government develop. Figure One provides a model for the evolution of government services online. This development begins with a straightforward posting of information

online where communication is one-way and simple. It may then evolve into a more interactive exchange between government and citizens where simple transactions such as renewing passports or paying taxes can be completed. Later services will be combined at a single point of entry and more complex personalisation of citizen's entry points can take place. Here communication may be more interactive and unprompted. A final stage might well involve the joining together of consultation processes with service delivery functions within a single port where all government-citizen interaction takes place in a seamless way. (It is assumed that OnlineNI will follow UK Online and aim to be positioned somewhere between stages 2 and 3 but with elements of stages 4 and 5 coming into play. Indeed, this is an objective stated by CITUNI. Stage 6 remains an aspiration for UK Online and again indications from the Corporate Strategic Framework suggest that developments in Northern Ireland would seek to keep pace.)

Evolutionary stage	**Level of service available**	**Type of communication**	**Form of Govt. organisation**
1.Information publishing/ dissemination	Departments set up basic websites, list services & contact points	One–way, "push" – i.e. analogous to broadcast, "electronic notice-board, adverts for hardcopy publications	Developed and organised by individual depts. for own use
2. Official two-way transactions	Customers/citizens able to transmit information; limited e-publishing	Two-way communication, "push" & "pull" – i.e. data on request, downloadable documents; electronic signatures for simple transactions	Individual departments or central IT unit initiating e-services for use in Departments to duplicate existing mechanisms
3.Multi-purpose portals	Single point of entry to multiple govt. services allowing multiple transactions	Bi-directional communication - send and receive information plus monetary transactions	Inter-departmental co-operation, some cross-cutting organisation
4.Portal personalisation	Individual customer preferences and interests	Customised individual service,	Increased cross-cutting of departments.
5.Clustering of common services	Perceptions of government as multiple entity replaced by transaction-led interaction across govt. as a whole	One-touch access; full range of links across to private and voluntary sectors & rest of government	Individual-led interaction with "Government" as single entity; Cross-cutting or fully integrated services requiring modified departmental structures;
6.Full integration & transformation	Technology integrated, distance between front and back office shortened or eradicated; services totally integrated across (what were formerly dept. boundaries)	Fully interactive; zero touch technologies; proactive alerts; supporting on-line voting, consultation and discussion	Budgets and culture follow traffic mix; "isocratic" administration; a revolution in government?

Figure One: The Evolution of e-government services

Such an evolution does of course require an associated change in the structure of government as the fourth column of Figure One indicates. This is a very important issue. As the technological front office develops, and the old departmental boundaries are blurred in an effort to ensure that the citizen can access the service required directly (rather than simply the department that deals with one or another aspect of his or her problem), so too will the back office change and develop within a general process of integration of services. If citizens are accessing services organised by issues or life

events then government departments may find themselves necessarily involved in more and more cross-cutting organisation and, eventually, perhaps in providing more fully integrated services that will challenge the organisation of traditional departments.

At its highest stage of evolution, a fully integrated online government inevitably would bring *huge* changes in the structure of the administration as budgets and culture would follow the direction of traffic, making use of individualised, zero touch technologies. From the point of view of the citizen he or she would not be interacting with individual government departments but with "Government" as a single entity. Indeed at this level (beginning at stage 5 and covering mainly stage 6 of Figure One above) the whole idea of e-government *involves* and *requires* changes in how government itself is organised.

There is in this way architecture to e-government requiring links between different parts of government and routes to individual citizens in order to conduct authenticated transactions. The way in which the citizen accesses government, the means by which that that inquiry is routed and the part of government that deals with the inquiry, are thus intimately linked within the model of e-government. Figure Two shows the framework that is involved.

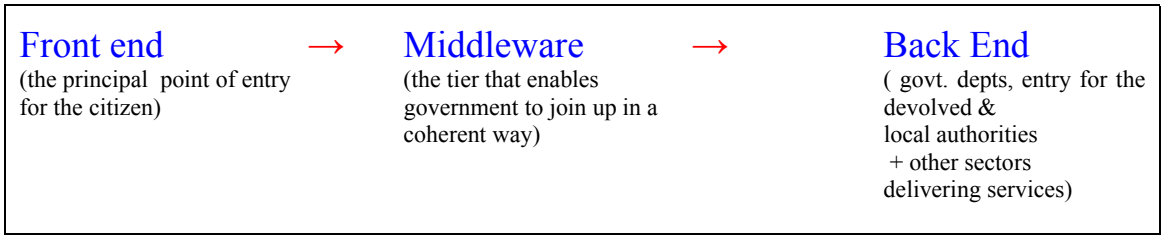

Figure Two: e-government framework

Within the wider UK context ambitions are set at a high level. (Indeed, because of the particular architecture of UK online there are issues about how technology can expect to change Government structures and cultures even at lower evolutionary stages, for example around stages 3 and 4 and moving towards stage 5 in Figure One .)
The idea is that www.ukonline.gov.uk will be the "front end", the principal entry point for citizens to access government information and services online. According to the stated policy of the e-Envoy, it will be "the key driver in transforming the way in which public services are organised and delivered, and in leading the drive to better integration of government services".[8] E-government in Northern Ireland will be caught up with this, as the stated view from the e-Envoy is that UK online is not intended to

replace other portals (such as, presumably OnlineNI) but rather "bring together all public sector portals and web-sites under the UK online brand"[9].

The "middleware" is provided by the Government Gateway (see figure three). This is a sophisticated piece of secure infrastructure with intelligent routing and authentication software opening up different parts of government (and related bodies in the public, private and voluntary sectors) to interact with each other and conduct transactions with the public. The Government Gateway is being developed to ensure that all government information and services are aggregated in one place. It is intended to provide joined up and transparent access to all parts of government and also to ensure that the necessary and appropriate security and authentication is available to enable different parts of government to conduct electronic transactions with citizens.

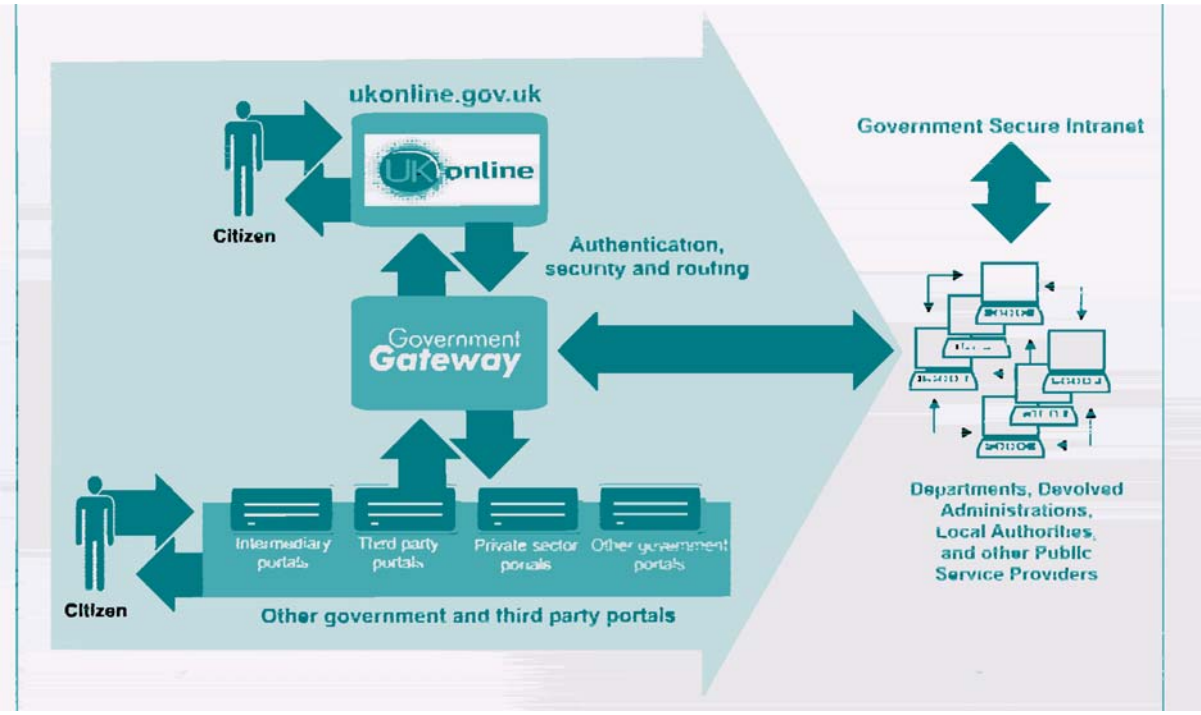

Figure Three: The Government Gateway

This is an important piece of governmental architecture and its place within the overall framework designed to transform citizen inquiries into government business has profound consequences for the shape and design of government. This applies in Northern Ireland every bit as much as within the rest of the UK system as NI systems will remain linked to the Government Gateway. This piece of architecture is performing an immense role in routing and authenticating communications between citizens and all the different parts of government, including devolved and local service

providers as well as those other providers drawn from other sectors. As information flows and budgets are allocated in response to traffic so too will the structure of government need to change to accommodate the reality of citizen experience. The information technology could (almost unwittingly) be the driver for a revolution in the organisation of government where departmental boundaries are eroded by a technological interface that increasingly renders them obsolete. This may result in what scholars of public administration term "isocratic administration" where structures of government are submerged below an interface which intercedes between government and the citizen, and in turn shapes how government organises itself to respond to the citizen. In other words, there may be a process of real structural change in the shape of government that accompanies changes in access to government and the flow of information that results.

Of course this begs the question of whether such a vision will work. There must be serious doubts if such an ambitious project of information engineering is technically feasible - even if it were thought desirable. Very serious questions must be asked here. As the table in Appendix A indicates there is not a good record of success in large-scale projects and what is envisaged here is much larger. There must also be serious doubts if the macro and micro political cultures of Government, which is accustomed to working within separate Departments and to separate budgets, could be overcome simply by technological innovation.

3.2 Additional Technical and Legal Issues

While the general architecture of UK online will raise large-scale organisational issues there are also smaller scale technological and legal matters to be resolved. These exist at earlier stages in the evolution of e-government. For example, within the context of the e-government Interoperability Framework (e-GIF), which sets out the Government's technical policies and standards for achieving interoperability and information systems coherence across the public sector, it is important for all initiatives to agree upon common support structures, best practice guidelines, toolkits and centrally agreed XLM data schemas. The importance of active NI representation on the UK GovTalk initiative, which is a Cabinet Office led, joint government and industry forum generating and agreeing XLM data schemas, is not to be understated.

There are some technical issues of a legal nature that are of importance too. Government inevitably will be focused on four basic questions: What is proposed? Can

it be afforded? Is there authority? Can it be managed? As the vision of e-government generally is contemplated, and in particular as the image provided by the Government Gateway (illustrated in figure Three) is considered, the importance of seeking a complete legal picture of a number of important issues should be appreciated. These include not only issues about privacy and confidentiality and the application of data protection, freedom of information and human rights legislation but also problems over authentication of identity and security of information (from outside and across government). These wider legal issues, arising from the penetration of the voluntary and private sector into government and the deployment of information gathered in one (public) context within another (private) context, exist in the present context of multi-level, multi-agency government. However they are exacerbated in the sort of model proposed in the e-government vision. This should be the subject of another specialist report.

3.3 Advantages of offering services online

In setting the context of e-government some mention has already been made of the strengths of ICT generally for applications in government. There are two major attributes in particular, however, that must be examined closely in this discussion of online services. These relate to the potential to save costs and the perceived openness and democratic quality of online services.

3.3.1 Cost-saving Potential

It is widely thought that the provision of services online will lead to cost-savings in the same way as online suppliers in the private sector have often benefited from reduced costs, estimated to be as much as 10% of total operating costs. Indeed, CITUNI has identified this as a particular aim within the Northern Ireland public service. Other jurisdictions too anticipate savings. For example in Germany, BundOnline 2005, an e-government initiative aimed at offering 376 services over the internet within the next four years, promises savings of *E*400 million per year, principally through a centralised electronic payment platform and simplified public procurement systems. (See further www.bundonline2005.de/en/bilanz/index4.html).

Generally, however, experience has shown that expectations of large savings might be overly optimistic. E-government, properly carried out, is expensive. There is

potential for costly failure and, as the table in Appendix A again indicates, the record in the UK is not good. Most recently, for example, in April 2002 the National Audit Office reported the Cabinet Office wasting nearly £5m on the Government Gateway to provide a system to offer secure online transactions with a number of government departments including Inland Revenue and Customs and Excise.

Officially the budget for UK Online is £1bn over three years but the real cost is much higher. IT projects underway in central government add up to £10bn according to National Audit Office in April 2002, and local councils in GB are paying for their own efforts, mainly from rates. It is perhaps significant that as the world leader in e-government the United States government spends an estimated $1bn a week on IT. Savings may, however, occur when systems are in place. It is not contemplated that online service will replace traditional methods completely and so savings are not available directly in this way. However, it may be thought that with increased traffic online, running costs generally will be lower. The Oracle Corporation claim savings of £71 million through the deployment of web-enabled, self-service applications for functions such as personnel records, pay, expenses and training. Again, however, experience urges caution in the public sector context. Impower, the company which launched Britain's first e-licensing service (for fishing licenses) lost money on every transaction. Indeed, the City of San Francisco now charges a "convenience fee" of $2.75 for paying parking tickets online. Alternative revenue supplies may not be forthcoming as, for example, the US company GovWorks found itself unable to sell advertising on their web portals.

While intuitively it may be thought reduced costs can be expected, it may be safer to regard any savings as a bonus with the main gains of e-government coming from other, non-financial sources such as reviewed below.

3.3.2 Democratic advantages - improved openness and enhanced accessibility

Just as some have unrealistic expectations of the efficiency gains and cost savings available from e-government so too there is a belief in some quarters that the internet is necessarily an open and inherently democratic medium and, as a result, when governments "go online" they will immediately and automatically become more open, which in turn will improve the quality of democracy. This is not necessarily the case. Listing services online and offering these as an alternative way of doing business does not necessarily amount to doing any more than most medium sized corporations do in

relation to selling their products and establishing ways to complain. Standards and processes that are suitable for the private sector will not inevitably be of value in the public sector. Furthermore, introducing an electronic equivalent to structures or processes that already exist may not do any more than replicate many of the shortcomings of existing channels. Indeed, there may even be particular problems in ensuring that online equivalents keep pace with the output of government. Everyone is familiar with websites in a whole range of contexts that contain very limited material and rarely change. This problem exists for government too. For example, the UK National Audit Office found one agency within government providing a site that was visited by several thousand users each month but which was spending only £14 out of every £1 million of running costs on maintaining its web presence. There is nothing about providing services on-line that necessarily or inevitably improves their accessibility and openness.

Indeed a number of good practice guides exist to urge improvement. Among them the E-envoy guidance to official webmasters (www.e-envoy.gov.uk/webguidelines.htm) is valuable. Organisations dealing with disability, such as the Royal National Institute for the Blind, provide guidelines also (see www.rnib.org.uk). SOCITM's *Better Connected 2002* Survey provides an overall review of best practice across local authority web sites in Great Britain. It also reports on a test carried out on the ability of local authority websites to respond to the sort of needs that a range of local authority customers, such a business expanding in a new location or a family moving house, might have. Using various scenarios, the test examines the degree to which government is joined-up, the use of interactive applications, community leadership and usability. Ratings are also given on how websites performed on specific tasks such as answering emails, providing access for those with disabilities and technical performance. The resulting performance tables and 27 pages of advice for website managers is a valuable tool for improving both content and usability of government websites generally.

Overall, performance across government websites is very patchy. Some do not even provide contact telephone numbers or basic contact addresses. The Arizona-based research team, CyPRG, has developed the Website Attribute Evaluation (WAE) system.[10] This offers a 43 point scale to measure, at least in part, some of the democratic attributes of systems. The WAE measures openness in terms of the two goals of *transparency* and *interactivity*. Transparency relates to the minimal

information that is necessary to navigate the organisation as depicted in the information on the site. Interactivity is a measure of visitor convenience and assesses the extent to which the site is navigable to the user or "clickable". (The main measures are set out in Appendix C.) This WAE system provides a stern critical voice against those who believe that the technology is by nature open and that e-government automatically equals efficient, open and more democratic government. The global average score for transparency at the last measure was 7.4 out of a possible 21 and for interactivity it is 2.6 out of a possible 18.

As regards accessibility, the provision of services online has the potential advantage of convenience for consumers with services being available "24 x 7". This may have a special value for isolated communities and there may be particular scope for rural populations in Northern Ireland. http://www.ruralni.gov.uk, providing a one-stop shop for farmers is worthy of mention in this regard. However, it is important to ensure that access to Internet services is available widely across all of the community. In Northern Ireland there is relatively limited access to ICT as Figure Four indicates. (In its equality impact study CITUNI does not reach any conclusion about the distribution of resources amongst the various groupings in Northern Ireland although generally ICT use is known to be significantly less among older age and lower income groups.) Remedial steps in terms of providing open access sites in a variety of public locations and training and facilitation may be required, perhaps along the lines of the Wired Up Communities initiative in GB.[11]

Social Group	Access to DTV	Access to PC	Access to Internet
All Households	32%	28%	11%

Figure Four: Access to ICT in Northern Ireland[12]

Access to services has little value unless the services are ones that people wish to have online. There is significant research on this.[13] Generally speaking this suggests citizens and other groups will use services that they find valuable, easy to use and that are delivered in appropriate ways with significant gains. Thus, for example, interest is expressed in services such as that which will allow notification of change of address to all branches of government as well as banks and utilities etc. (see http://www.changeofaddress.gov.uk). There is also, for example, a pilot programme in the Lord Chancellor's Department allowing solicitors to issue and serve petitions for less serious cases via email that is having some success. With this a judge considers

petitions and where possible resolves cases without a hearing. Initial results suggest average time taken to provide judgement on a civil case can be reduced from 21 to five days and there are savings as interested parties do not have to attend court. With regard to the issue of appropriateness, the illustration most often given to show good practice is that of GCSE results being delivered by mobile phone. Clearly some audiences are more ready than others for online services, and it must be accepted that traditional means will need to be continued, perhaps indefinitely, for some users.

4. Consultation: Models and Best Practice

Consultation is the most significant application of e-government. As was noted in Section Two above, there is a range of governance initiatives that increasingly stress participation and consultation. The potential for ICT to reinvigorate and renew traditional formal democratic structures and processes in this context has been recognised at many levels from the international and European to the domestic and local. In the UK context there is the far-reaching Modernising Government initiative with its emphasis on consultation and participation. There is also considerable interest in the UK generally about the potential of e-voting to reinvigorate traditional voting, although this is not such an important issue in Northern Ireland and the lead on this issue can be taken by those elsewhere. However, the particular emphasis on partnership and consultation that is present within the new political dispensation in Northern Ireland generally, and through Section 75 of the Northern Ireland Act 1998 in particular, suggests that there are special opportunities here to develop online consultation.

In particular ICT has important potential to "*Facilitate*", "*Broaden*" and "*Deepen*" participation to enable citizens to share in decision-making that affects them and to improve the quality of decisions by ensuring public debate to inform decision makers. There are four main types of interaction involved:

- *Citizens and Representatives*

Effective representation requires effective dialogue between electors and the elected. This is not a direct responsibility of Government but it is particularly important within the Northern Ireland context to involve elected representatives at all levels in participation mechanisms and not give the appearance of by-passing politicians by way of more direct forms of democracy. The NI Assembly website is informative and some local council sites are excellent. Hansard Society research[14] indicates that generally

what most electors want from their representatives' websites is (in descending order): an online surgery for constituents to raise problems; an email address so that constituents can contact representatives; a consultation forum where he/she can read constituents' views; email updates sent to constituents on important issues; and a web site containing a daily diary. (Only 15% of those asked claimed to want none of the above). Practice in Northern Ireland could be improved to address these areas.

- *Political Parties*

This is not directly a responsibility of government either but political parties are central to the democratic process, particularly within the new structures of government in Northern Ireland. ICT can provide the means for parties to engage more systematically with their members and more generally with the public in the development of policy. Research indicates that the Internet is likely to become more important everywhere during elections as a means of eliciting support and providing information.[15]

- *Civic Activity*

Communication between Government and civil society and the establishment of what some have called "a Civic Commons in Cyberspace"[16] is an essential element of e-democracy that together with the next form of interaction is chiefly the responsibility of Government and the subject of the rest of this paper.

- *Citizens and Government*

Communication involving consultation between Government and the individual citizen is central to policy development generally and of particular importance in Northern Ireland. ICT offers the possibility of more interactive and effective consultation.

4.1 Existing Models of Consultation: UK Online and CitizenSpace

It is important to understand exactly what is meant by consultation in this context and to distinguish "real" consultation, involving proper engagement and participation, from more limited or cosmetic versions. There is much scholarly debate on this.[17] However Figure Five below indicates a typology that develops from non-participation through to citizen control.

8	**Citizen Control**	} degrees
7	**Delegated Power**	} of citizen
6	**Partnership**	} power
5	**Placation**	] Degrees
4	**Consultation**	] of
3	**Informing**	] tokenism

2	**Therapy**	} Non-
1	**Manipulation**	}participation

Figure Five: Eight Rungs on a Ladder of Citizen Participation

In e-government terms this runs in parallel with developments in Figure One, which show an evolution from citizens and civic groups being merely passive receivers of information, (through transactional interaction) to active conversations among citizens where they control the policies and activities of civil servants and politicians.

Full citizen participation is still a very long way from being anything but an aspiration, even using existing e-consultation methods. With UK Online the general model contained within the "Citizen Space" page remains one of the citizen reacting to government proposals – although here they are on line. The essential idea that citizens simply obtain, read and then comment upon lengthy documents from Government Departments remains intact. Even the provision of a page offering "Tips to keep in mind" when responding to Government Departments, offering such advice as "be brief… provide evidence… respond to the questions … [and] say who you are…" does not suggest any application of new techniques of consultation or any consequent real revitalisation of democracy.

From the other side of the coin, that of Government running the consultation there is limited imagination in developing new consultation strategies that can take advantage of the new technology. The Cabinet Office code of Practice (www.cabinet-office.go.uk/servicefirst/2000/consult/code/ConsultationCode.htm) is predicated on the idea that each citizen will be an active citizen, and will read diligently all the material, be brief, provide evidence, respond to questions etc. as the 'Tips to keep in mind' in the Citizen Space page suggests. Such an idea may well have appeal to many administrators who of course will control the supply and flow of information. However the idea of an orderly and responsive audience who will feed back in a regulated and systematic way is as unrealistic as it is unimaginative. It is little wonder that the new consultation paper *In the Service of Democracy* produced in July 2002 anticipates a radical revision of Citizen Space on UKOnline

Proper e-consultation will involve much more than a very slight updating, using electronic media, of the traditional mechanisms that have been in existence for many years. There is the opportunity to link the new information and communication technology with new democratic technology and processes. This is an opportunity that should be taken in Northern Ireland.

4.2 An improved model of consultation

Mediation processes provide an important starting point for improving consultation processes to be used with online tools in computer supported deliberative decision-making. There are several versions of mediation that have particular application in an e-consultation framework and the stages shown below indicate what typically happens when mediators organise meetings between opponents to discuss issues. Generally there are various stages, which may follow a pattern like this one.

1. Open discussion
    - People get familiar with other participants.
    - They discuss the issue(s) of concern.
    - They explain their own needs, and listen to other's needs.
    - They do *not* set out positions and solutions at this stage (otherwise people argue about the first two solutions proposed, ignoring other possibilities, and putting themselves into a positional, win/lose, bargaining mode).
    - They agree on the key issues to be discussed further.
2. Structured problem-solving
    - Participants start to explore the issues.
    - They identify many possible solutions (ideally by some brainstorming process that helps people identify non-obvious solutions).
    - They work out how well these alternatives help or hinder them in meeting their own needs, and also other's needs, perhaps involving an element of counter-positional advocacy whereby one side is required to argue the other side's case.
    - They try to modify and synthesise the options into ones that meet the most important needs of each group.
3. Evaluation and choice
    - Sometimes the second stage produces a plan that is acceptable to all. In a society of experienced deliberators, such as elders among Canadian Indians or Koori, deliberation will continue until they all reach agreement – but no further.
    - In situations where this is not achieved, there may be several practical solutions available at the end of stage 2. Some of these benefit some groups more than others. These alternative outcomes need to be evaluated, and choices made.
    - One approach to this stage of evaluation and choice may involve independent

convenors or mediators who can combine similar options to come up with a short list from which to choose. The participants then evaluate the choices, through a deliberation process leading to a consensus voting system. Finally, the convenors report on the results of the vote, picking out the options with the most consensus support.

4. Implementation
   - This involves developing top choices into a workable plan.
   - This may be carried out by one or more of:
     - the participants themselves
     - the independent convenors or planners
     - civil servants and legislators
     - other decision makers who have agreed to work within the limits established in stages 1-3.
   - Once the plan is put into practice, citizens' participation will be in the form of feedback on the practical consequences of the plan, providing early warning of unintended consequences, and identification of new issues for another stage 1.

A model such as this one provides the sort of democratic technology that can be linked to the information and communication technology to provide a better form of participation and consultation leading to more democratic decision-making.

4.3 Computer support for deliberative democracy[18]

There is a range of computer support tools available that may have application to the consultation model outlined above. The most promising of these is groupware, which is software designed to support groups of people working together. Three levels of groupware application can be identified and distinguished. These relate to the software's ability to:

1. *Communicate*. Here participants can exchange messages easily. They can read and write, but not necessarily understand.
2. *Understand others*. At this level participants can use the software to help them understand other participants and their views: but they do not need to agree with them.
3. *Share mental models*. Here a team has developed a shared mental model of the problem and ways of finding solutions. They understand each other so well they have come up with a common model. This is the level reached in small teams that have been working for some time together (e.g. a team of industrial

designers).

Figure Six shows how for each stage different levels of groupware are required to support the human processes in the model of consultation or deliberative decision making outlined above. The bottom of the diagram maps roughly the stages of debate, consultation, voting and participative design.

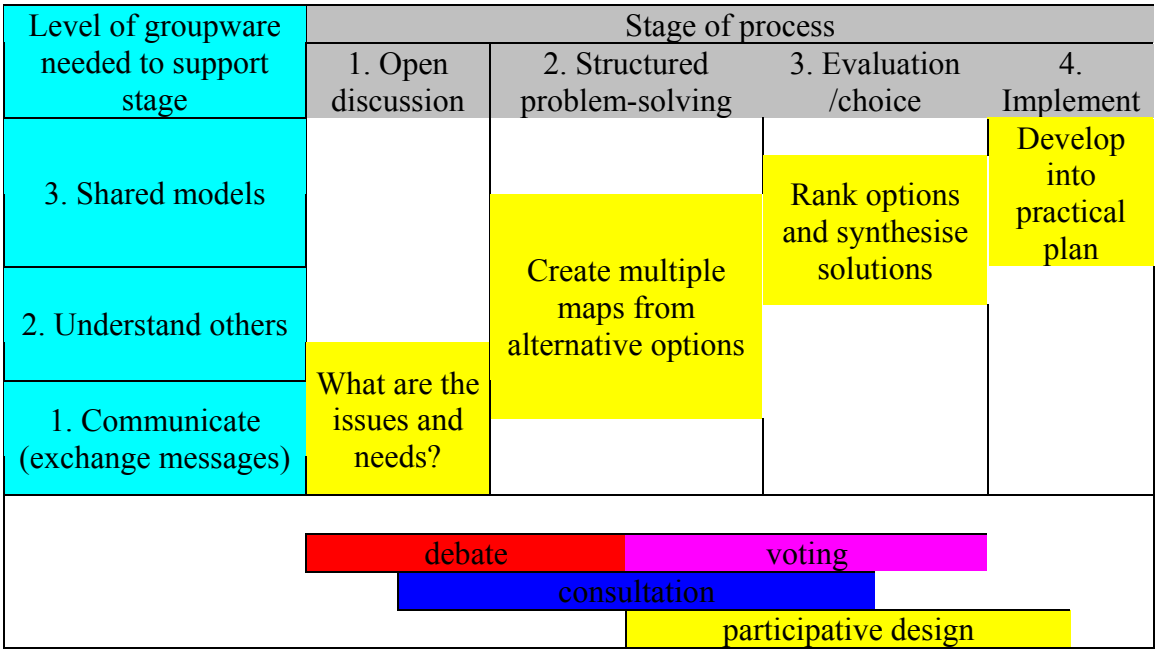

Figure Six: Groupware to support stages of democratic decision-making

As we move from stage to stage in deliberative decision-making, the participants at each stage move into higher levels of groupware. Consequently, different types of software are appropriate for each stage of the process.

4.4 E-consultation in action

The model both of consultation and of groupware support indicated above does not exist as the standard in any jurisdiction as such. However, what has been presented does represent the best of good practice in design terms and examples of actual good practice drawing upon models very like this do exist in many specific applications. Figure Seven indicates some of these. Such examples exist alongside other techniques such as online polls and surveys; comment forms requiring multiple choice answers with open ended remarks sections; on line petitions and testimonies; focus groups and web forums and email lists. None of these are particularly scientific, or should be

thought to have application very far beyond being a useful way of provoking interest, debate and discussion that can be picked up later. They may however be useful adjuncts to the other e-consultation techniques.

Consultation Model	Type of interaction	Examples
Question and Answer	Simple public web-page with questions and "voting"	Youth question Florida Governor http://www.myflorida.com/eog/kidspage/Questions.htm BBC Talking Point http://newsvote.bbc.co.uk/hi/english/talking_point/default.stn
Electronic Petitions	View a petition on-line, sign or amend and join discussion forum	Petitioning the Scottish Parliament www.scottish.parliament.uk/parl_bus/petitions.html Petitions to 10 Downing Street www.number-10.gov.uk/output/page598.asp
Document + policy comment	Respondents add comments to policy document, can include "threads" and horizontal communication between groups and individuals	e-democracy toolkit developed by International Teledemocracy Centre http://www.ict.napier.ac.uk/ITC_Home/ITC/e-toolkit.asp Dutch experience of interactive consultation collected at http://www.inbzl.nl/international/documents/pab907.htm
Online Guests/Panel	Decision makers or experts on a virtual stage answering questions on pre-chosen topic for agreed time	Young peoples' views on human rights in East Belfast http:www.eastbelfast.com/youth/ US Presidential debate http://www.webwhiteblue.org/rcd/
Online Conference	A conference replicated online over a period of days or weeks inc. workshops, breakout sessions, "coffee time chats" etc.	Scottish Youth Summit http://www.youthsummit.org.uk World Bank Development Forum http://www.worldbank.org.devforum/ongoing.html
On-line spatial decision support systems	Virtual modelling of planning options and interactive questioning of planners and community	Pilot studies carried out by geographers from Leeds University at http://www.ccg.leeds.ac.uk
Communities of Practice/Interest relating to particular topic or consultation process	Online tools for e-mail list group, informal or more structured and focused information exchange. Can include questionnaire, opinion polls, brainstorming etc.	Law Commission 290 pp. consultation on housing law in questionnaire form http://www.landlordlaw.co.uk Bologna civic network http://lipoerbole.bologna.it/
Live Chat Events	Interact in real-time, Q and A with politicians and (especially) youth groups or hard to reach minorities in structured process hosted by facilitators	Politicians talk to East Belfast Youth http://www.eastbelfast.com/youth/ EU Commission Europa Chats http://europa.ue.int/comm/chat
Live Multi-Media Events	"Lunch speaker" or press conference with interactive tv or webcast, poll, questions, text available online etc.	Wisconsin Interactive TV Project http://itv.wpt.org/examples NASA Mars Teaching Training Conference http://quest.arc.nasa.marsconf London's Camden Council engaging with young people www.camden.gov.uk/young/index.cfm

Figure Seven: Methods and examples on online consultation

4.5 Additional support for e-consultation

There are a range of good practice guidelines and recommendations to support these sorts of e-consultation techniques. These range from the obvious and very practical to more principled and high level.

The list below provides a digest of practical tips for creating inclusive online consultations drawn from various sources including Stephen Clift's *e-government Briefing Book* with its top ten tips (see further http:www.netcaucus.org/books/egov2001/), the IPPR *Good Practice Guidelines* and the Hansard Society's *Building Digital Bridges* programme.) This is intended to be indicative rather than exhaustive.

- website design and software to ensure use with limited IT literacy and disability;
- work with partners esp. special interest groups and nationally recognised organisations;
- provide facilitation and guidelines and a neutral host;
- offer access to decision takers and supply feedback
- lengthy lead-in to projects (at least six months);
- encourage political representatives to become involved by, for example, posting questions and comments;
- use wide variety of access methods, DTV, touch-screen kiosks and community access points;
- freephone number to recruit participants; wide use of press and local radio;
- wide use of relevant web links;
- extra information - make the website value-added;
- explore use of voice recognition technology to convert speech to text;
- set up small scale consultations with training package for low income groups and most disenfranchised who would not participate;
- disseminate results

At a higher level of principle, there are some suggestions for supporting e-consultation that are worth consideration. These include:

- The introduction of an *e-democracy Charter*, setting standards on openness and privacy, responsiveness and feedback, and deliberation and moderation rules.
- Developing a programme of *Digital Citizen training* in schools

- Establishing and equipping *Facilitation Units* (independent of Government) to assist with individual consultation exercises in particular communities.
- Founding and supporting a local *Community of Practitioners* to co-ordinate good practice locally, future proof initiatives and co-ordinate as relevant with pathfinders in other jurisdictions in the UK and with the Republic of Ireland. (However it is important to be aware of the existing e-Consultation Study Group drawn from individuals in various levels of government, the community and voluntary sectors and the universities with some experience in this area. See further http://www.qub.ac.uk/mgt.e/consult/res.html).
- Ensuring that local good practice is *benchmarked* against developments across the UK and the Republic of Ireland and that Northern Ireland is represented fully in GovTalk and other appropriate bodies.
- Appointing a Northern Ireland equivalent to the *E-Envoy* to co-ordinate developments and support the work of CITUNI.

5. Conclusion

Overall it has been seen that e-government is a rapidly evolving area which has application both in the provision of services and in improving processes of consultation. The introduction of e-government has the potential to alter the shape of Government as new channels for information flow cut across traditional departments and structures. There are constitutional issues involved in this as well as merely technical matters. Northern Ireland stands to obtain some benefits from developments in on line service delivery and particularly in relation to improving consultation processes. There is significant international experience to indicate what is best amongst good practice exemplars. Careful study of this can maximise efficiency in on line service delivery and enhance participation for e-consultation as Northern Ireland develops its e-government programme.

Notes and References

[1] See further the work of the Hansard Society on the use of internet technology the UK's general election in 2001 in S. Coleman (Ed.) *2001: Cyber Space Odyssey: The Internet in the UK Election* (2001) and the Electoral Commission, *Modernising elections: a strategic evaluation of the 2002 electoral pilot schemes* (2002) at http://www.electoralcommission.org.uk/publications.htm#anchor1

[2] Prime Minster Tony Blair has declared that, "I believe that the information society can revitalise our democracy" and he has referred to how "innovative electronic media [is] pioneering new ways of involving people of all ages and backgrounds in citizenship through new internet and digital technology … that can only strengthen our democracy". Quoted on Hansard Society, *E-Democracy Programme* webpage at http://www.hansard-society.org.uk/eDemocracy.htm. See also, A. Giddens, *The Third Way: The Renewal of Social Democracy* (1998) and *The Third Way and its Critics* (2000).

[3] See further http://www.cyprg.arizona.edu.

[4] *E-Government Leadership – Realising the Vision* (2002)

[5] *Benchmarking E-Government: A Global Perspective* (2002).

[6] See http://www.lib.berkeley.edu/GSSI/eu.html for a comprehensive index of EU Servers and institutions with material posted on the web. See also the EUR-LEX portal which offers a one-stop shop for information about pending and adopted Community law. (www.europa.eu.int/eur-lex/en/index.html).

[7] See further, for example, J. Morison, "Democracy, Governance and Governmentality: Civic Public Space and Constitutional Renewal in Northern Ireland", *Oxford Journal of Legal Studies* Vol. 21. Pp. 287-310 (2001).

[8] See *UK Online.gov.uk: Connecting you with government information and services* (2001) available on line via http://www.e-envoy.gov.uk.

[9] Supra p. 12.

[10] See See Demchak, C, Friis, C and La Porte, T. "Webbing Governance: National Differences in Constructing the Face of Public Organisations" (2000) op cit. For more detail visit http;//www.cyprg.arizona.edu/wea.html.

[11] See www.dfes.gov.uk/wired/index.shtml.

[12] Source CITUNI equality impact survey based on Continuous Household Survey data (available at http://www.cituni.gov.uk/equalityimpact.htm). Figures on IT use in the UK generally suggest that 56% of the population has now used the internet and time spent online is increasing. The majority of 15-24 year olds are using the internet at home and 82% of this group have accessed the internet at some time. See Office of National Statistics, *Internet Access: Households and Individuals,* April 2002 and Oftel Residential Survey, *Consumers' Use of the Internet,* February 2002.

[13] This includes Oftel surveys into residential consumer use of internet services www.oftel.gov.uk/publicaitons/research/indez.htm, the Office of National Statistics figures on internet access www.statistics.gov.uk/pdfdir/intacc0402.pdf and individual studies such as The Cabinet Office, *Electronic Government: the view from the queue* (1988) which contains the detailed research about potential customer take-up of online services.

[14] See S. Coleman, (ed.) *Democracy Online: What do we want from MP's web sites?* (2002).

[15] See, for example, S. Coleman (ed.) *2001: Cyber Space Odyssey: The Internet in the UK Election* (2002).

[16] See J. Bulmer and S. Coleman, *Realising Democracy Online: A Civic Commons in Cyberspace* (2001)

[17] For an overview see further J. Morison and D. Newman, "On-line Citizenship: Consultation and Participation in New Labour's Britain and Beyond" *International Review of Law Computers and Technology*, Vol. 15 No. 2 pp. 171-194 (2001).

[18] Part of the next two sections draws upon joint work carried out with Dr David Newman in conjunction with work (published at n. 17 above) and the author acknowledges his contribution with gratitude.

Appendix A: Key Findings of Research on factors determining how websites develop world-wide*

- an enthusiastic senior manager in a key development position will greatly influence the speed of technological development and its purpose, although content may lag if the same person does not nurture change agents responsible for providing website content
- rollout and use of extranets tends to lag across agencies, with some exceptions in the defence and education sectors where agency interdependence is recognised
- key actors rely on external commercial firms in making web design and use decisions rather than the normal professional or sectoral referent group. Availability of funds and technological expertise tends to involve a leap forward in graphic design to emulate commercial sites without necessarily a similar improvement in content.
- Commercial definitions of acceptable website feature dominate and are used as the norm for public sites with the result that alternative designs, uses, content and control are ignored in efforts to comply with emerging (commercial) practice.
- Commercial notions of the requirements associated with e-commerce have reinforced the legitimacy of using security concerns in policy debates about access and content with the result that the speed and direction of development is set by the commercial security industry rather than the public service community

* Drawn from interviews with 150 webmasters in public administrations world-wide and published as La Porte, T, Demchak, C and Friis, C "Webbing Governance: Global Trends Across National Level Public Agencies" in *Communications of the ACM* (2001).

Appendix B: Government IT Failures

Department	*Project*	*IT Supplier*	*What went wrong*
Benefits Agency/Post Office	Benefits payments	Fujitsu/ICL	Abandoned after 3 years at cost of £1bn
Lord Chancellor's	Processing cases	Fujitsu/ICL	Failure of core case-working software costing £178m.
Home Office	Immigration Applications	Siemens	Abandoned at a cost of £77m when system failed to cope with numbers
Ministry of Defence	Classified information	Unknown	Abandoned after mounting security and compatibility problems
Home Office	Passport Agency	Siemnes	Delays increased from 10 days to 8 weeks adding £40m.
Contributions Agency	National insurance	Accenture	1,900 separate failures resulted in compensation to 400,000 people at cost of £38m
Inland Revenue	Various	EDS	Rising costs led to more double envisaged spend, adding £1.4bn

(drawn from *The Economist* 4th May 2002)

Appendix C: CyPRG Website Attribute Evaluation (WAE) system

WEA transparency **measures:**

- Ownership – the extent to which the agency is involved with the site, tailoring material for its users or if it has shunted content decisions elsewhere, such as to a central government bureau

- Contact information – the website's ability to contact individuals or positions within the organisation which indicates the agency's willingness to permit outsiders to reach inside the organisation beyond the webmaster gateway

- Organisational or operational information – the degree to which the information is provided about the organisation's operations and its connections to related organisations or information outside that provided by government. This will include links to vision statements as well as organisation charts and charts the extent to which the agency links to other relevant organisations

- Citizen consequences – the extent to which the agency shows what is necessary to comply with regulations or take advantage of services on offer. Typically this relates to whether the forms required for a particular transaction are available on site indicating that the organisation has anticipated the citizen's needs.

- Freshness – the extent to which the site is kept up-to-date with the frequency of updating suggesting the degree of centrality that the agency managers give to the website within the agency's operations.

WEA *interactivity* measures:

- Ownership – are addresses given and are they hotlinked for ease of citizen input?

- Reachability – to what extent does the organisation permit the client to reach electronically into the organisation via dialogue boxes or hotlinks? Are senior officials listed with hotlinked email addresses?

- Organisational or operational information – how rapidly can the user navigate inside the organisational structure or wider issue community via the site? This measures the degree of sophistication of the agency's concept of citizen involvement in the agency's operations by asking in particular about the degree of technical effort expended to ensure that the structure is open via, for example, clickable organisational charts.

- Responses – to what extent can the citizen input and review or receive responses from the agency? Does it have an online submission process (which may require considerable change to internal processes and budgets as well as technological expenditure)?