Implementing E-Government Strategy in Scotland: Current Situation and Emerging Issues

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ABSTRACT

Using Information and Communications Technologies (ICTs) to transform public services is a central element of the current UK Government's strategy for modernising government. This paper explores the development of e-government by an in-depth study of the current position in the public sector in Scotland. The research involved an evaluation of the web sites of a wide range of public sector organisations, a survey of chief executives and interviews with five key stakeholders. The results of this research suggest that public sector organisations in Scotland recognise the importance of e-government but are currently at a very early stage in developing electronic services. There is a gap between the rhetoric about the potential of e-government and the reality on the ground. In particular, the public sector organisations involved in this research appear to be more sceptical about the ability of ICTs to break down barriers within and between organisations than those who advocate e-government as a solution to this problem. Issues on balancing conflicting objectives between implementing E-government strategy and other strategic initiatives will also be highlighted. The paper concludes by suggesting a number of key issues that will need to be addressed if e-government is to fulfil its potential and transform the way public sector organisations manage their activities and interact with customers and citizens.

Keywords: e-government, e-commerce, e-business, public services, Web evaluation, organisational transformation

INTRODUCTION

Back in 2000, the Economist (24 June 2000) argued that ‘[a]fter E-Commerce and E-Business, the next Internet revolution will be E-Government’. In the Information Age, the role of the government is not only to create a favourable environment for their citizens and businesses, but also to use information and communications technologies (ICTs) to transform the way that the public sectors conduct their business and deliver services to citizens and businesses (Bellamy & Taylor, 1998).

The current UK Government has set out an ambitious agenda for modernising public services. At the heart of the strat-
egy is the delivery of integrated services across organisational boundaries through the use of ICTs (Cabinet Office, 1999; Oakley, 1999). In Scotland, with the devolution of power from the central government, the Scottish Executive is responsible for the delivery of a wide range of public services. It has generally endorsed the UK Government’s modernisation agenda. This paper looks at the development of e-government in Scotland.

The paper is largely explorative, combining a detailed literature review with comprehensive empirical research of the public sector in Scotland. The rhetoric of the UK Government’s modernisation and e-government strategies is based on the implicit belief that ICTs can be used to transform the public sector. But what is the reality on the ground? How are public sector organisations currently making use of ICTs and the Internet in particular? How are they planning to exploit the potential of ICTs in the future? What are the main drivers and barriers to the development of e-government? These are some of the key issues this research seeks to address.

The next section examines the efforts to reform the public sector that have been going on since the earlier 1970s, and describes the move from the traditional public administrative perspective to a more managerial or business-oriented approach. Previous research on the role of ICTs in transforming organisations in general and in the development of e-government in particular will be reviewed. Then the methodology and the techniques used in undertaking this research are outlined. Following that the paper presents the findings of an evaluation of the web sites of Scottish public sector organisations, which seeks to evaluate the extent to which these web sites currently reflect the objectives and priorities of the UK Government’s modernisation agenda. The findings of a survey of chief executives in Scottish public sector organisations will also be presented, and it describes how they perceive the importance of the Internet now and in the future, the arrangements that their organisations have put in place for managing the implementation of e-government, and their views about the key drivers of and barriers to the development of e-government. Finally, some key issues emerged from the research will be highlighted.

MODERNISING GOVERNMENT: THE THEORETICAL UNDERPINNING

In 1999, the UK Government set out an ambitious programme for ‘modernising government’ in a White Paper. Its central aim is to ‘achieve better government, better policy making, better responsiveness to what people want and better public services’, by reforming the machinery of government in the UK, particularly through the use of ICTs (Cabinet Office, 1999).

Bureaucracy, New Public Management (NPM) and the ‘Third Way’

Traditionally the public sector was seen as profoundly different from the private sector. The origins of this can be traced back to the first half of the 20th
century when the scope and scale of the public sector grew dramatically, as government increasingly intervened in social and economic matters which had previously been left to market forces (Greenwood & Wilson, 1984). The growth of government during this period is closely associated with the development of bureaucracy.

The bureaucratic form of organisation was seen as being particularly suitable to the public sector for much of the 20th century, because it was based on rational principles and provided a ‘countervailing force to corruption and the arbitrary use of power’ (Mintzberg, 1996). The theory was attractive to advocates of the classical school of public administration as it supports values such as impartiality, political neutrality, accountability and equity that were regarded as essential in government and public administration (Brown & Steel, 1979). Although bureaucracies produce unintended consequences such as inflexibility, lack of responsiveness and insensitivity, the advantages tended to outweigh disadvantages (Greenwood & Wilson, 1984).

Hood (1991) identified four global ‘mega-trends’ in public administration and management during the 1970s and 1980s, including a slow down or reversal of government growth, privatisation or quasi privatisation, technology and automation, and a more international agenda. These trends have produced a shift away from the traditional public administration perspective towards a more business-orientated approach to management in the public sector, known as ‘New Public Management’ (NPM). These changes are largely the result of a marriage between two different ideological streams—public choice theory which places an emphasis on competition and consumerism, and managerialism which advocates the universal rules of management that are ‘portable and paramount over technical expertise’. In the UK managerialism was much more dominant, producing a ‘more pragmatic and less intellectually elegant strand of NPM’ (Hood, 1991).

One of the central tenets of NPM was consumerism and the claim that public services needed to be more responsive to the needs of those who use them. However, consumerism, in its undiluted private sector form cannot be superimposed on the public sector, particularly when it is considered that many public services are provided for the benefit of society as a whole and individuals as citizens rather than customers. Public sector organisations need to be concerned with the needs of individual customers but they often need to balance these needs with wider concerns. This has resulted in a search for models that combine the best features of the traditional public administration perspective with modern business theory and practice, often referred to as the ‘third way’ (Mintzberg, 1996; Gunn, 1988; Osborne & Gabebl, 1992). This new management perspective is increasingly reflected in the management of the public sector in the UK.

**New Labour’s Modernisation Agenda**

The *Modernising Government* White Paper acknowledges that some
parts of the public sector are as ‘efficient, dynamic and effective as anything in the private sector’ but there are also some significant weaknesses. Institutions are often organised around the structure of the providers rather than the needs of users, and there is a general lack of responsiveness to the views of the public. The focus is often on inputs rather than outcomes, and there is a culture of risk aversion in which the rewards for success are limited and the penalties for failure severe (Cabinet Office, 1999).

To overcome these difficulties the programme sets out three strategic aims and five key commitments. It aims to ensure that policy-making is more joined up and strategic; public service users, not providers, are the focus, by matching services more closely to people’s lives; and that the delivery of public services is of high quality and efficient. The key commitments include that policy making will be forward looking to deliver outcomes that matter, not simply reacting to short-term pressures; public services will be responsive to the needs of citizens, not the convenience of service providers; public services will be efficient and high quality; new technology will be used to meet the needs of citizens and businesses; and public service will be valued and not denigrated (Cabinet Office, 1999).

Two of the central themes that run throughout the White Paper are the need for ‘joined up’ government through greater horizontal and vertical integrations between different service departments and agencies to address issues that cut across traditional organisational boundaries; and the need for more ‘citizen-centred’ government so that services are integrated at the point of delivery rather than customers and citizens having to navigate their way round a bureaucratic maze (Rhodes, 2000). These two themes are important because they challenge the fragmentation of thinking and practice that was associated with both the managerial and bureaucratic forms of organisation. They also challenge traditional organisational structures and cultural attitudes associated with professionalism and specialisation that are deeply ingrained in the public sector. To a large extent the UK government’s modernisation programme can be seen as a synthesis of previous ideas and reform proposals, and a pragmatic expression of the ‘third way’.

**THE DEVELOPMENT OF E-GOVERNMENT**

E-government is generally taken to encompass three areas of activities through the use of ICTs: improve the efficiency and effectiveness of the executive functions of government including the delivery of public services; make governments more transparent by giving citizens better access to a greater range of information; and enable fundamental changes in the relationships between citizens and public sector organisations with implications for the democratic process and structures of government (POST, 1998). The trend towards e-government represents a continuation of previous public sector reforms but with a substantially increased role for ICTs. Heeks (1999) describes three distinctive ways in which ICTs can be used to support reform proposals within the public...
sector: supplant by automating existing human-executed processes; support by assisting existing human-executed processes; and innovate by creating new IT-executed processes. In the past ICTs were used primarily to supplant and support existing processes and produce efficiency gains. However at the heart of current efforts to develop e-government is the drive to use ICTs to support innovation by creating new processes and increase effectiveness in terms of better services. ICTs allow government programmes to be designed around the needs of citizens rather than just the structures or the convenience of civil servants; and internetworking can provide a vehicle for radically transforming the way government programs are delivered and changing the very nature of governance while at the same time driving down costs (Tapscott, 1996).

The UK Government’s Performance and Innovation Unit believes that electronic service delivery can be used to join up service provision across departmental boundaries, to break down silo-based delivery networks and allow citizens to interact with government whenever they choose (Cabinet Office, 2000a). The electronic delivery of government services could result in greater convenience, responsiveness and more personalised services than is possible using existing delivery channels.

Bellamy and Taylor (1994) argued that many contemporary ideas for reinventing government are based on the feasibility of introducing and managing ‘boundary challenging’ information flows that are made possible by modern ICTs. They identified four main trends in technologically enabled reform in the public sector. The relocation of intelligence and knowledge to the point of contact with customers; the lateral integration of customer records across organisational structures so that customers become ‘whole persons’; a trend towards ‘prosumption,’ i.e., the integration of customers into the production process to create products that are tailored to their specific requirements; and new kinds of interactive flows of information within and between organisations. Similarly an OECD (1998) study of the use of ICTs as an instrument of public sector reform in five countries identified a number of generic trends. Models of horizontal (across governmental agencies) and vertical (across levels of government) integration were being employed to provide one-stop-shop to consumers of government services. Service integration included both point of delivery integration and ‘back office’ integration. Service delivery arrangements were being reconfigured to follow and integrate with ‘life events.’ Finally, the availability of technology was a driver as well as an enabler of change by making certain government applications possible and creating new public expectations. Some of these trends are clearly reflected in the current e-government initiatives in the UK.

E-Government UK Style

The UK Government has made information age government one of the five key commitments in its modernising government strategy, and it intends to use ICTs to ‘achieve joined up working be-
tween different parts of government and provide new efficient and convenient ways for citizens and businesses to communicate with government' (Cabinet Office, 1999). The key elements of the Government's vision for ICTs-driven modernisation include making it easier for business and individuals to deal with government; enabling government to offer services and information through new media e.g., the Internet and interactive TV; and improving communications between different parts of government so that people do not have to be asked repeatedly for the same information by different service providers. It also gives staff in call centres and other offices better access to information so that they can deal with members of the public more efficiently and more helpfully, make it much easier for different parts of government to work in partnership with each other and with third parties, which helps the government to become a learning organisation by improving access to and the organisation of information.

To achieve these, it is necessary that services and processes are developed around clusters of related functions aligned to the needs of citizens and businesses. More services will be available 24 hours a day, seven days a week. User feedback will be used to improve the design and organisation of services and other processes and focus them more firmly on citizens and businesses; and government websites will be used as single gateways, often structured around 'life episodes', to a whole range of related government services or functions.

The Government has followed up the *Modernising Government* White Paper with an IT strategy (Cabinet Office 2000). A central element of the strategy is the use of e-business methods i.e., using new delivery channels, including the Internet, to improve relations with customers, suppliers and partners. The strategy describes the benefits that the development of E-Business methods will deliver to a range of stakeholders. For citizens, it means wider choice of delivery channels, convenience, lower transaction costs, more personal services, greater awareness of services and policies, greater openness and democratic participation. For business, this will lead to quicker interactions, reduced transaction costs and reduced regulatory burdens. For suppliers, it means reduced transaction costs, better inventory management, and shared data environments. For other public bodies, it means greater accuracy and efficiency, reduced transaction costs, better use of knowledge base, and more flexible working arrangements. The strategy proposed by the Government has four guiding principles, namely, citizen-focused government, accessible services, inclusiveness, and managing information better. The strategy also recognises that implementing e-government will involve organisational changes.

The Government also made it clear that developing electronic government in Scotland is the responsibility of the devolved Scottish Executive. The Scottish Executive developed a complementary strategy for devolved services in Scotland and the First Minister has confirmed that the target of making 100% of services available electronically by 2005 will apply to all public services in Scotland.
Implementing E-Government: Stages and Barriers

Implementing e-government often requires a staged approach. Deloitte Consulting developed a six-staged approach from information publishing and dissemination, via basic transactions; multipurpose portals, portal personalisation; reconfiguration of services to finally full transformation. Similarly, the Australian National Audit Office outlined a four-staged model to provide a criteria for public sector organisations to use in determining which services should be delivered electronically, and a mechanism for evaluating existing initiatives. These models indicated that the development of e-government should be seen as an evolutionary process with organisations going through a number of stages before they can fully realise the predicted benefits. One of the advantages of adopting a staged approach is that it will allow organisations to build up trust and confidence amongst customers as well as tackling the organisational and cultural changes. As organisations move through the various stages the issues involved become more complex, especially in terms of organisational and cultural changes.

Several comparative studies of e-government in different countries have been conducted in recent years (Deloitte Research, 2000; Oakley, 1999; CITU, 2000). These studies found that while some countries have examples of innovative use of ICTs in transforming government services most are still at early stages of developing their overall e-government strategy. Some governments are more advanced than others in developing transactional systems, particularly in areas like taxation and routine form filling. However, there are relatively few examples of integrated transactional services that allow citizens to access more than one part of the government at once.

Several barriers have been identified to the consumer uptake of e-government services (British Telecom, 2000), including the perceived lack of ‘warmth’ or personal interaction and the cost of accessing the Internet, both in terms of the hardware and ISP and telephone charges. Some people believe existing channels are as convenient as electronic channels; and people often feel more in control using traditional channels when they have confidence that ‘something is happening’. Moreover, different people will prefer different channels at different times and for different types of transactions. One lesson from the development of e-government internationally is that it is difficult to seek the views of customers on services that they are not yet aware of (CITU, 2000). Public sector organisations may need to develop services first and then stimulate demand via awareness programmes, marketing campaigns and the provision of incentives.

The main barriers to the implementation of e-government are not technical but cultural and social. A clear vision, strong leadership and a rigorous implementation process are seen as key conditions for driving forward e-government. Successful e-government depends on the delivery of integrated services but integrating government services is difficult because of institutional conservatism and technical
incompatibilities. There is a need for a whole government approach that includes all levels of government including local organisations and agencies; and more cross-departmental and inter-agency initiatives to ensure that services are structured around the needs of citizens rather than existing organisational structures. While the UK Government was making good progress in putting the technology in place to support joined up working there were many difficulties in using such tools effectively. The difficulties were not primarily technical but the human and organisational issues connected with the implications of new technologies (Cabinet Office, 2000). There is a strong need for the development of e-government to be integrated with the wider modernisation agenda in order to address the change management issues.

THE RESEARCH DESIGN

The research combines a literature review with carefully constructed empirical research, including an evaluation of the web sites of public sector organisations in Scotland, a postal questionnaire survey of chief executives of these organisations; and semi-structured interviews with a small group of stakeholders.

Web Evaluation

As web sites become more complex, the factors that determine their effectiveness have become multi-dimensional. Combining the key features of previous studies on web evaluation (e.g., Simeon, 1999; Misic & Johnson, 1999; Deconti, 1998; NAO, 1998; SOCITM, 1999a; 2002), this research evaluates the web sites of various public sector organisations in Scotland in terms of their structure, accessibility, information content, interaction and integration.

The structure dimension looks at the extent to which it is either inward or outward looking and designed to reflect the needs of customers and citizens. Accessibility examines the ease of navigating the site to find information and the accessibility of the site in terms of the needs of users including those who have special needs. The content dimension examines the extent to which the site includes certain core information that is likely to be of use to customers and citizens. Interaction evaluates the extent to which a site allows for two-way communications, including online transactions between customers/citizens and the organisation. Integration looks at the extent to which a site promotes ‘joined up’ government by providing signposts or links to the web sites of other organisations. Due to various constraints of the research, issues related to the technical performance of the websites, such as loading time, presence of broken links, the date of last update, etc., were not examined in this study.

Postal Survey of Chief Executives of Public Sector Organisations in Scotland

A postal questionnaire survey of chief executives of various public sector organisations in Scotland was also conducted. The questionnaire includes a mixture of open ended and closed questions.
The objective was to analyse the results of the survey on a sectoral basis to identify any significant differences in the attitudes of chief executives in different parts of the public sector.

**Interviews with Key Stakeholders**

The final element of the research involved semi-structured interviews with a small group of key stakeholders. These interviews allow issues to be explored in greater depth than was possible in the postal survey. They also provide a national perspective to the research, which complement the organisational focus of the postal survey and web site evaluations. A total of five interviews were conducted, including a senior civil servant in the Scottish Executive; the chief executive of a local government; a senior manager in Scottish Enterprise; a local authority IT manager; and a former chief executive of a Health Trust. The interviews were semi-structured which allowed a degree of flexibility while ensuring that the interviews remained focused on the key issues. A short outline was used to provide structure to the interviews and this was sent to interviewees in advance to give them an insight into the issues that would be discussed during the interview. Each interview lasted for at least an hour, with some considerably longer. Follow up e-mails and phone conversations were used to clarify particular issues.

**E-GOVERNMENT IN SCOTLAND: THE RESULTS OF WEB EVALUATION**

The web sites of 98 public sector organisations in Scotland are assessed. The objective was not to rank individual web sites, but rather to identify overall trends within the public sector as a whole and highlight any significant differences between different sectors within it.

**Structure**

The overall structure of the site was classified as highly structured, semi-structured or unstructured. This was designed to determine whether the site was logically structured and integrated as a whole as opposed to being a collection of unrelated information with little or no thought being given to the site’s overall structure. Over 70% of the web sites that were evaluated were being highly structured. A further 25% were semi-structured, which meant that there was a clear overall structure but some sections of the site appeared to have been ‘bolted on’ to this structure in an incremental way rather than integrated into the overall structure. Only 5% of sites were classified as unstructured, meaning that they were clearly a loose collection of unrelated information that had been brought together with little or no thought given to the overall structure of the site. Government departments, agencies and Non Departmental Public Bodies (NDPBs) and local enterprise trusts were more likely to have highly structured
web sites than organisations from the health and local government sectors.

**Accessibility**

The websites were also evaluated in terms of the ease of navigation around the site for all users, and accessibility to those with special needs, particularly those who are either visually impaired or whose first language is not English. Overall, the web sites rated highly in terms of general ease of navigation factors, with 88% having clear links back to the main menu from throughout the site and 80% having most of the key information within a single ‘click’ from the main menu. The sites generally rated less well in terms of offering navigational aids, with only 43% having a search facility, 19% a site map, 16% an A-Z index and 4% a separate help section. Some sites offered more than one of these facilities, but overall a quarter of sites offered no navigational aids at all. The vast majority of sites performed poorly in terms of the wider access issues: only 5% of sites offered a text-only version of the site and only 4% had been approved by the Royal National Institute for the Blind or similar organisation. None of the web sites evaluated offered facilities for those whose first language was not English.

**Information Content**

Given the diversity of public sector organisations and the wide range of functions they are responsible for, the information content of their web sites vary considerably. There is, however, certain generic information that best practice guidance suggests should be included in all organisation’s sites. This study looked at two main types of information. Firstly, basic content information that the Cabinet Office’s guidelines recommend should be on the home page of every public sector organisation’s web site. Secondly, core generic information that various best practice guidelines suggest should be included in ‘information-rich’ web sites.

All of the web sites evaluated included the organisation’s name on the home page and almost all (94%) also included the organisation’s logo. However, other basic contact information was less prevalent. Only half of the sites featured the organisation’s postal address on the sites’ home page, and only 44% displayed a contact telephone number, 38% a fax number and 27% an e-mail address for general enquiries about the organisation (as opposed to an e-mail address for enquiries about the web site). There were significant variations between the sectors in terms of the provision of basic contact information.

**Interaction**

If web sites are to move beyond being more than ‘brouchureware’ then they need to offer opportunities for individuals to interact with organisations including opportunities to transact business with them. This study evaluated web sites’ interactive qualities by looking at a series of factors, which represent progressively higher levels of interaction. A majority of sites included information that would allow customers to interact with the organisation by another medium e.g., con-
Contact names (86%), contact telephone numbers (69%) and information about complaints procedures (51%). However, far fewer sites included features that would allow customers to complete transactions on-line. While 35% of sites included 'clickable' e-mail addresses for named individuals, only 8% included a facility for responding online to consultation exercises and less than 5% included forms that could either be downloaded or completed online. Only two sites out of the total sample of 98 offered a facility for making payments on-line.

Integration

The study also examined the extent to which web sites facilitate integration between different organisations in the public sector. The guidance published by the Cabinet Office (CITU, 2000) states that the Internet is an important means of delivering 'joined-up' government and in demonstrating relationships between different areas of policy and service delivery. This research examined the extent to which web sites contain links to related information on other organisations' web sites.

Over half of all the web sites contained a separate links section, with 56% of these organising the links on the basis of organisational names and the remaining 44% categorising them by subject matter. Far less use was made of hypertext links within web sites with only 14% of web sites making either limited or extensive use of such linkages. Only 8% of the web sites evaluated contained clickable links on the home page, acting as a gateway or portal to other related sites. Surprisingly, given the emphasis the Government has placed on 'joined up' working more than a third of all the web sites that were evaluated did not have any links to other public sector organisation's sites.

Figure 1: Interactive Features of Web Sites of Public Sector Organisations in Scotland
Table 1: Responses to the Postal Survey by Chief Executives of Public Sector Organisations in Scotland

<table>
<thead>
<tr>
<th>Sector</th>
<th>Number of Completed Returns</th>
<th>Response Rate within the sector</th>
<th>Response Rate of the sector as % of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Authorities</td>
<td>19</td>
<td>59%</td>
<td>27%</td>
</tr>
<tr>
<td>Health Boards and Trusts</td>
<td>21</td>
<td>49%</td>
<td>30%</td>
</tr>
<tr>
<td>Scottish Executive Depts, Agencies and NDPBs</td>
<td>14</td>
<td>41%</td>
<td>20%</td>
</tr>
<tr>
<td>Enterprise Network</td>
<td>16</td>
<td>67%</td>
<td>23%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>70</strong></td>
<td><strong>54%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Summary**

Despite the subjective nature of some parts of this evaluation, the research clearly indicated that the web sites of public sector organisations performed best in terms of the structure and information content but poorest in interaction and integration. Given that these are the aspects of performance that are most clearly identified with the Government’s modernisation and information age government agendas, this suggests that public sector organisations in Scotland are currently at an early stage in utilising the Internet to help achieve these objectives. More specifically, local authority web sites performed best overall and also performed above average for all of the individual dimensions of performance except interaction. Health sector web sites performed poorest overall and also performed poorest in terms of each of the individual dimensions. Government departments, agencies and NDPBs’ web sites performed best in terms of the interaction and integration dimensions of performance. Enterprise network web sites performed best in terms of the structure dimension and above average for all other dimensions except interaction.

**SURVEY OF CHIEF EXECUTIVES**

This research also carried out a questionnaire survey of chief executives of public sector organisations in Scotland. The survey was sent to the chief executives or their equivalent in a total of 129 public sector organisations in Scotland, including local authorities, health boards, health trusts and local enterprise companies, as well as Scottish executive departments, agencies and NDPBs. A total of 70 completed returns were received representing an overall response rate of 54%.

**How Do Chief Executives Rate Their Own Organisations’ Web Sites?**

Forty-four percent of all respondents said that they viewed their organisation’s
web site at least once a week. The percentage was highest in local government and the enterprise network (50%), and lowest among respondents from government departments, agencies and NDPBs, where only 23% of respondents viewed their organisation’s web site at least once a week.

Respondents were asked to rank their organisations own web site against a range of factors. The only factors that a majority of respondents rated as either very good or good were overall design and appearance (71%) and the quality of information provided (68%). Respondents rated their organisation’s web sites far lower for other factors. Allowing the public to interact with the organisation and promoting ‘joined up’ government were the lowest rated factors with only 14% saying their organisation’s web site was either good or very good in terms of these factors.

How Important is the Internet to Organisations

Respondents clearly saw the Internet as being important to their organisations, with 60% saying it was very important and 33% saying it was fairly important. However, they also believed it would be more important in the future with 90% saying it would be very important to their organisations in the future. Respondents said that they used their intranets for communicating a wide range of information within their own organisations. However, in most cases the intranet appeared to as being used as a parallel system to existing paper based systems.

Respondents anticipated major changes in the way that their organisations communicate with customers, suppliers and other organisations. The main changes that were anticipated were a substantial decrease in written communications and telephone calls and corresponding increases in communications by e-mail or through the Internet. Only 7% of respondents said that either e-mail or the Internet was currently the most important means of communicating with customers; however, 49% said they would be the most important in the future. The corresponding figures for communicating with suppliers were 8% and 74%, and for communicating with other organisations were 9% and 67%.

Managing the Development of E-Government

Only 15% of respondents said their organisation had a separate strategy for developing e-government, although a further 24% said they were in the process of preparing one. Of the remaining organisations, 19% said e-government was part of a wider corporate strategy, while another 29% said that it was part of their organisation’s existing IT/IS strategy. Twelve percent of respondents said that their organisation had no strategy for dealing with the issues raised by e-government.

Sixty-seven percent of respondents said that their organisation had appointed a senior manager to take overall responsibility for the development and implementation of their e-government strategy. However, only 75% of these managers were members of their organisation’s senior management team. This means that
In practice only 50% of organisations had someone on their senior management team with overall responsibility for the development of e-government.

Implement E-Government through Partnership

Forty-three percent of respondents said it was essential to work with other organisations in the public and private sector in developing e-government initiatives and another 30% said it was very important. In terms of current partnership arrangements respondents were most likely to be working with other public sector organisations, either in their own geographical area (78%) or in their own sector (81%). Other partnerships were mentioned less frequently, including joined working between local organisations and central government departments (43%), partnerships with consultants (30%) and other private sector organisations (29%).

Overall, 81% of respondents were aware of the Government’s targets for electronic service delivery. Twenty-three percent of all respondents said it would be very difficult for their organisation to obtain the target of 25% of services being deliverable electronically by 2002, while 42% said it would be very difficult to achieve the 2005 target of 100% of services being deliverable electronically.

Drivers and Barriers of E-Government

Respondents were asked to rank a number of factors that could be driving or enabling the development of e-government in terms of their importance to their own organisation. The factor that was ranked very important by the highest proportion of respondents was the prospect of improving the accessibility of services (78%). Other factors that were ranked as being very important by a majority of respondents included the prospect of improving the quality of services (70%) and initiatives from the Scottish Executive (59%). Interestingly, a substantially higher proportion of respondents said that initiatives from the Scottish Executive (59%) were very important than said that initiatives from the UK Government were very important (35%). The factors which were rated lowest in terms of their overall importance were, expectations of suppliers and the public about the ability to conduct transactions electronically (19% and 23% respectively rated these factors as very important drivers) and a concern to match standards of service in the private sector (25%).

Respondents were asked to rank a number of potential barriers to the development of e-government. Lack of access to a PC or the Internet by a large proportion of the population was regarded as being a very important barrier by 54% of respondents. This was substantially more than the next few factors—a lack of common IT systems within and between organisations (cited as being very important by 28% of respondents), a lack of financial resources (26%) and concerns about security and privacy (26%).

INTERVIEWS WITH KEY STAKEHOLDERS

This research also included semi-structured interviews with five key stake-
holders in Scotland, which provided significant insights on various issues in the area of e-government highlight in the survey and in the literature research.

**Opportunities Offered by E-Government**

All the stakeholders said that the main opportunity offered by e-government in the short to medium term was the potential to improve the efficiency and effectiveness of services and to make financial savings by delivering routine transactions with customers and suppliers electronically. For some this was seen as necessary in order to reallocate resources to other services as a result of financial pressures, and for others it was seen as an opportunity to release resources that could be directed towards the development of new services or deliver existing services to a larger number of customers.

The second most important opportunity identified by the key stakeholders was the ability to improve existing services by making them more convenient and responsive to the needs of individuals. This was seen as a major driver of e-government. They believed that demand for electronic service delivery would increase, as people became more accustomed to dealing with private businesses electronically and therefore expect the same degree of convenience when dealing with public sector organisations.

Some of the stakeholders recognised the opportunities that e-government could offer in terms of developing services that were tailored to the needs of individuals. However, they also acknowledged that this raised concerns about the sharing of data within and between organisations. There was a general assumption that the public is suspicious of government organisations sharing information as it raised images of ‘big brother’.

All of the stakeholders accepted that in theory the development of e-government should make it easier to provide joined up services. Internet based technology was seen as offering the possibility of breaking down barriers within and between organisations. Within organisations e-government was seen as supporting the development of ‘one stop shops’, either in physical offices or call centres, by providing front-line staff with access to more comprehensive information about individual customers. Some stakeholders also said that Internet technology should make it easier to provide ‘joined up’ services that cut across organisational boundaries, but there were major organisational and cultural barriers that needed to be overcome. As one stakeholder put it ‘previously incompatible IT systems were the problem, now the technology is the easy bit, changing attitudes and organisational cultures will be much harder’.

**Barriers to E-Government**

The lack of access to the Internet amongst certain sections of the population was seen as being the most important barrier to the development of e-government by all of the stakeholders. This was seen as being a particular problem for public sector organisations, as they can’t choose their customers. Indeed many public services are provided specifically...
for vulnerable or low-income groups who are least likely to have access to the technology. The main consequence of this is that public sector organisations will have to continue to provide services through multiple channels at least in the short term to prevent excluding those who do not have access to the Internet.

The lack of finance for capital investment in new technology was seen as a major barrier, particularly by stakeholders from the local government sector. This was partly explained by the fact that investment in IT was often not seen as a priority when competing for scarce resources against other claims for capital investment, e.g., for new schools, roads etc.

All of the stakeholders said that one of the key barriers to maximising the potential offered by e-government was the need to change individual attitudes and organisational culture. There was a clear recognition among the stakeholders that e-government was not a technical issue but an organisational change issue. However, many of them felt that this was not universally recognised at senior levels within public sector organisations.

Stakeholders felt that there was currently a perceived problem with security and authentication that prevented the development of electronic transaction services. This was seen as a particular problem for public sector organisations as the public generally saw them as being in a position of trust. This was seen as a major asset that should not be jeopardised by seeking to develop electronic services before issues of security and authentication have been properly worked out.

**Issues Particular to the Public Sector**

Most stakeholders said the issues involved in developing e-government were similar to those faced by private sector organisations developing e-commerce. However, the main difference was that public sector bodies did not face the same competitive pressures, therefore the motivations and drivers of change were generally different. Some respondents said that while public sector organisations did not face competition for most of their core services they did face competition for certain functions, e.g., the provision of information and that there was already evidence that private sector companies were looking to provide these services electronically. One respondent also said that the public increasingly compared the standard of service between public and private sector organisations and suggested that this could be seen as a form of ‘competition for customer’s hearts and minds’.

The stakeholders acknowledged that public sector organisations were generally more risk adverse than private sector organisations. However, they claimed that there were legitimate reasons for this, including the need for public accountability and financial probity in the stewardship of public funds. They also felt that bad experiences of major IT projects that had failed to deliver their promised benefits in the past had made senior managers more risk averse. The public sector is generally more unionised and has more rigid salary scales and conditions of service than the private sector. Stakeholders said this had a number of consequences for the devel-
opment of e-government. It meant that it was often more difficult and time consuming to achieve changes in working practices because of the need for these changes to be agreed through negotiation and collective bargaining. Salary scales were also seen as a problem in terms of recruiting and retaining skilled IT staff as the remuneration offered in the public sector was generally lower than in the private sector.

Managing the Implementation of E-Government

All of the stakeholders strongly emphasised the need to take an incremental rather than a ‘big bang’ approach to the development and implementation of e-government. They made a distinction between the need to develop an overall strategic vision that looked at the ‘big picture’ and the need to implement projects on an incremental or modular basis. This was seen as important in order to develop organisational learning and build up confidence through a series of ‘quick wins’. Some of the stakeholders said that this approach needed more sophisticated methods and techniques for prioritising projects and making judgments about relative opportunities and risks. Others said that more use should be made of ‘off the shelf’ solutions and adaptation of systems developed in the private sector rather than the traditional approach of developing bespoke systems.

The second key issue raised by the stakeholders about implementing e-government was the need to see e-government as a change management issue rather than an IT implementation issue. All of the stakeholders suggested that the main challenges that needed to be faced related to human resources, organisational culture and managing stakeholder expectations. A number of stakeholders said that this meant that communication, training and management development strategies had to be developed and that this had to be budgeted for in making investment decisions.

Stakeholders felt that the Government’s targets for electronic service delivery were valuable in emphasising the ‘political imperative’ of developing strategies for e-government. They provided an incentive and motivation for organisations to consider how Internet-based technology could be applied to their own business processes. However, they were seen as ‘blunt instruments’ when it came to developing e-government strategies within individual organisations. Stakeholders felt that organisations needed to develop their own targets that were tailored to their own needs and circumstances rather than simply accepting the Government’s targets.

CONCLUSIONS AND EMERGING ISSUES

The present UK Government’s modernisation programme can be seen as a pragmatic attempt to find a ‘third way’ between the traditional public administration perspective and business management theory. The Government has placed an increased emphasis on the effectiveness of public services as well as ensuring they are delivered in an economic and efficient manner. This is clearly reflected in the
Government’s strategy for ‘joined up’ government and for a more citizen centred approach to the delivery of public services. This will require the break down of traditional barriers within and between organisations. The potential of ICTs to enable the establishment of ‘boundary challenging’ information flows is seen as being of central importance in efforts to reform and modernise the public sector. There is a clear expectation that the information and communication capabilities of the Internet can be exploited to enable horizontal integration within and between public sector organisations.

The danger is that organisations could be tempted to adopt the ‘idolised’ approach to the use of ICTs to achieve organisational transformation. This approach sees ICTs as providing simple answers to what are complex organisational and cultural issues. Using technology to break down organisational barriers is likely to challenge traditional working practices and attitudes towards the management of information. It will also redefine the power structure of these organisations both internally and in their relations with one another. If e-government is to be successful in enabling the level of organisational change that will be required to achieve the objectives of the Government’s modernisation agenda it will need strong leadership from the top rather than being left to functional specialists in IT/IS departments.

E-Government Development in Scotland

The evidence from the survey and interviews indicated that public sector organisations in Scotland have recognised the potential importance of the Internet and have made a start in utilising the technology. The fact that 89% of organisations surveyed had their own web site compares favourably with previous surveys of government agencies in England and Wales and large private sector companies in Scotland, both of which showed lower proportions of organisations had developed their own web sites. The evaluation of web sites also shows that a large majority of these web sites are well structured and provide detailed information about the organisation and its activities.

Sixty percent of chief executives said that the Internet was currently very important to their organisations and 90% said it would be very important in the future. This suggests that the importance of the Internet to the way public sector organisations conduct their business has been widely accepted at a senior management level. Chief executives anticipate major changes in the way that their organisations communicate with customers, suppliers and other organisations. They expect a substantial increase in the use of the Internet and e-mail with a corresponding decrease in the use of the telephone and postal services. This suggests that they have accepted that the Internet will change the way that public sector organisations interact with these key stakeholders in the future.

However, recognising the potential of ICTs and the Internet is not sufficient to guarantee that this potential will be realised in practice. The vast majority of web sites that were evaluated performed poorly in terms of accessibility, interaction and in-
tegration, suggesting that they had not yet moved beyond the 'brouchureware' stage of development. Chief executives were more likely to say the Internet was of high importance in helping to improve the efficiency of existing services than for breaking down organisational barriers or developing new and improved services.

Lack of access to the Internet was seen as being a very important barrier to the development of e-government by a majority of chief executives. This confirms the fact that the 'digital divide' is seen as a major issue for public sector organisations. However, the literature review also showed that developing electronic public services could in fact help stimulate the demand for and the take up of digital technologies, and transferring only a small proportion of transactions to the Internet could generate substantial savings that could be used to improve other services. The existence of the 'digital divide' does mean that public sector organisations will need to maintain existing delivery channels in parallel to electronic delivery channels in the short to medium term. However, this is no different from many established companies in the private sector which are also developing ways to integrate electronic and non-electronic delivery channels.

The lack of competitive pressures in the public sector was one of the reasons why the public bodies have not grasped many of the opportunities offered by ICTs. The current UK government has argued that one of the reasons why public bodies need to develop e-business models is the need to match service standards in the private sector. However, this is not seen as a major driver of change in Scotland with less than a quarter of chief executives saying that either matching the standards of the private sector or the expectations of the public were very important factors driving the development of e-government. The extent to which the development of e-commerce in the private sector is raising the expectations of customers about the quality of service delivery they expect from public bodies therefore remains a contestable issue.

**Main Lessons and Future Research**

Many lessons can be drawn from this research. A key theme running throughout this paper has been the need to recognise the fact that the development of e-government will require fundamental changes in organisational behaviour and culture. The benefits of e-government will only be fully realised if ICTs are used to redefine and integrate business processes and break down traditional organisational barriers within and between organisations. This implies the need for a change management strategy that recognises that the social, cultural, organisational and human resource issues involved in managing organisational transformation will be as important as the technological issues. In particular, there should be a closer and more explicit alignment between the development of e-government and the wider modernisation agenda. The research suggests that there is a convergence between these two agendas at a theoretical level, however there is also a gap between the rhetoric of the visionaries and the reality of implementing change on the ground.
This can partly be explained by the ‘time lag’ involved in introducing any fundamental change. However, it also suggests that there is a need to make the links between the two agendas more explicit.

Many other issues were also highlighted but not addressed in detail in this paper. The success of e-government initiatives depends critically on the support of all key stakeholders. However, the development of joined up government will require the sharing of information across organisational boundaries which will redefine the power structure of these organisations at different levels. Therefore, strong resistance can be expected from those whose positions may be negatively affected, which in fact may even question the practical feasibility of achieving joined up government in the short to medium term. Also, one main driver of implementing e-government is to achieve efficiency gains which may be translated into reduced need for employment in certain sections of the public sector. This will clash with other strategic objectives of the Government such as full employment – an issue that will need to be carefully addressed given that the public sectors are the biggest employers in many regions in the UK. Cultural and social issues in relation to different types of areas, including rural areas, affluent and/or deprived areas, will also need to be addressed in future research.

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