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Realising E-Government in the UK: Local and National Challenges

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ABSTRACT

Since the benefits of Internet based business opportunities involving Information and Communication Technologies (ICTs) have become evident and influenced not only commercial enterprises, but governments around the globe, investments into the provision of e-services have amplified. The United Kingdom is one such country that has passionately initiated a number of e-government programmes at both local government and national levels in order to e-enable all the major public services. However, initial indications of the UK e-government initiatives suggest that many local authorities are lagging behind the national expectations for e-governance due to various barriers such as lack of resources, skills and public awareness. This paper examines the impact of such barriers on realising e-governance through the results of an exploratory study in one of the largest local authorities in London, Hillingdon, in the UK. While the government's perspective on e-governance is analysed in the paper through interview based research undertaken on the local authority's employees, the citizens' opinions are presented using the results of surveys undertaken on the local citizens. The conclusion of the paper discusses possible strategies for overcoming the various barriers that e-government faces.

Keywords: E-Government, UK, Hillingdon

INTRODUCTION

E-government encompasses a broad spectrum of activities that are offered using ICTs and allows an improved service of the government to citizens (Northrup and Thorson, 2003). There are many varying definitions of e-government, but for the purposes of this paper, the following definition is offered. *E-government is the delivery of online government services, which provides the opportunity to increase citizen access to government, reduce government bureaucracy, increase citizen participation in democracy and enhance agency responsiveness to citizens needs* (Prins, 2001).

There are many substantial benefits of e-government initiatives including, improving efficiency by reducing the time spent upon manual tasks, providing rapid online responses, and improvements in organisational competitiveness within public sector organisations (Yttersad and Watson, 1996). Furthermore, it helps in building and strengthening trust between governments and citizens (OECD Observer, 2003). Since the benefits of e-government became apparent, the number of worldwide e-government projects has increased since 1996 from three to more than five hundred national initiatives (Al-Kibsi et al., 2001).

The importance of the relationship between government and citizens has been recognised as crucial, such that, 30 European ministers recently agreed at the second European e-government conference held in Italy in July 2003 upon a plan to speed up the deployment of e-services as part of efforts to modernise the public sector EU-wide, at (Cuddy, 2003).

This research intends to offer a practical slant to the e-government initiative undertaken within the UK. Therefore the research question driving this research: *What are the lessons that can be learnt regarding e-government implementation at the local level by examining the experiences of a large local authority in the UK?* The motivation for this research lies in the following reasoning. Although advancements in ICT has enabled e-government to a large extent, it can be argued that the relationship between ICT and local governance is not just one underpinned by technology and capacity, but by less predictable elements such as social pressures (Odendaal, 2003). While the technological factors influencing any new or emerging concept are often obvious, the social and political aspects are usually identifiable through in-depth research. Therefore, by examining the wider socio-political aspects of national and local e-government initiatives is timely. This is even more significant in London, UK as there is a diverse multi ethnic population and land that is densely populated.

To provide responses to the aims and contributions of the research, this paper is divided in the following manner. In the next section a literature review identifies the challenges facing e-government in the global context. This is followed by a summary of the research method in section 3. Section 4 then offers an analysis of the research results and examples of the empirical evidence derived from a survey of local citizens. Finally, section 5 concludes the paper by summarising the main research findings, discussing the key challenges facing the implementation of e-government in the UK and outlining future directions for the research.

RESEARCH BACKGROUND: LOCAL AND NATIONAL CHALLENGES INFLUENCING THE ADOPTION OF E-GOVERNANCE

While the concept of e-government is rapidly gaining momentum, the various e-government websites and the services offered by them are being continuously assessed and ‘leagues of tables’ are being produced (www.nua.com, 2003). For instance, the consultancy firm Accenture has compiled a report of countries that have been accredited for their e-government initiatives, which include Canada, Singapore, the United States, Denmark, Australia, Finland, Hong Kong, the United Kingdom, Germany, and Ireland (see figure 1) (Accenture, 2002). As shown in figure 1, Canada heads the league table for excellence in e-government initiatives. For three years in a row, Canada has been viewed to be a country that places its citizens and businesses at the core of its e-government initiative (www.nua.com, 2003).

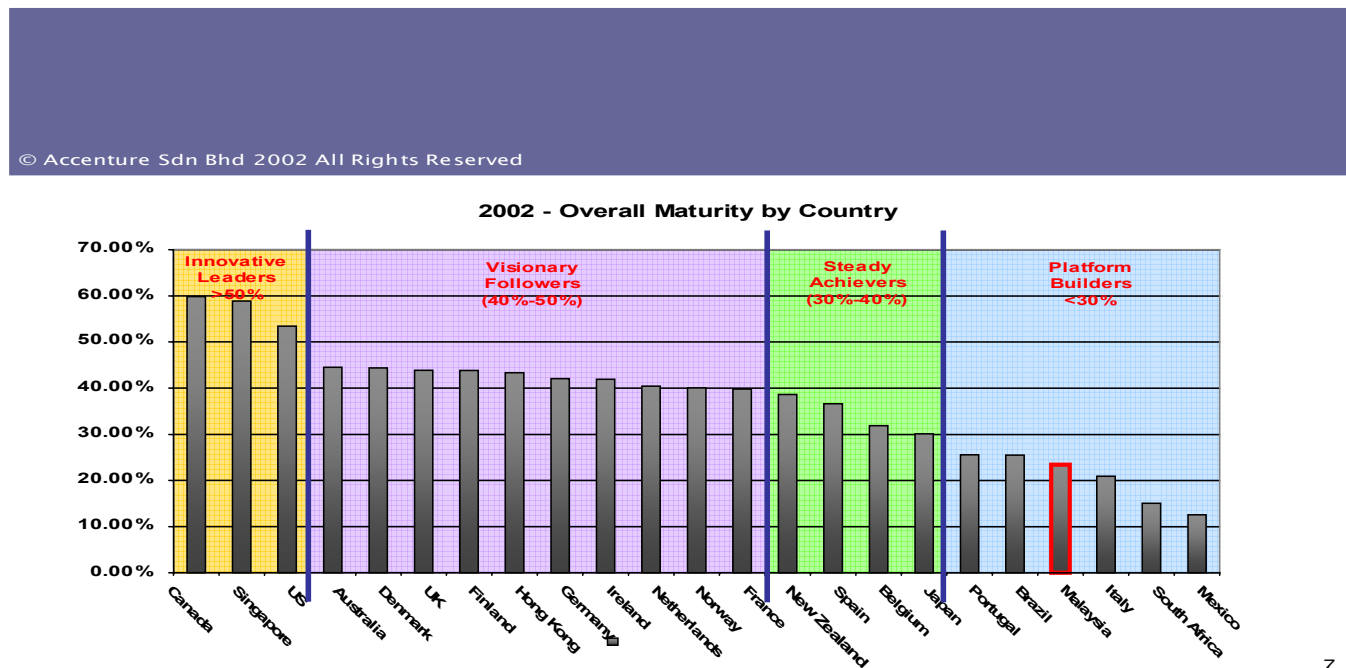


FIGURE 1: A Snapshot of the Global E-Government Scenario

Empirical evidence is also being produced within government agencies and industrial organisation domains (West, 2002) offering a practical slant to e-government initiatives around the world. While such research is invaluable for the further

development, understanding and promotion of e-government initiatives, the success of e-government will largely depend on the benefits and level of usefulness of the services it offers to citizens (Holden *et al.*, 2002). An example supporting this notion is provided by Araujo and Grande (2001). Their research focused upon e-government within Spain’s municipalities by examining the e-government web sites for content, management and style. It was found that large municipalities have much developed web sites whereby interaction with the citizens is prevalent. However, the smaller municipalities did not have web interaction. A reason provided for this is the familiarity of the citizens to the sites and online services and products in general.

E-government cannot be achieved on its own and for this various transformations and process changes are essential. In the following section an analysis of the process changes that can occur as a result of e-government is offered.

The Need for Process Transformation and Integration

The implementation of e-government implies different objectives and levels of transformation in public services in different countries. For instance, in the USA, the main objective is to automate and integrate different islands of information to simplify and maximise the benefits of technology. Contrastingly, in Europe the emphasis is to modernise public services and offer better services to citizens (Navarra and Cornford, 2003). However, whatever the objectives it can be argued that the transfer of public administrative processes from a largely manual state to an e-enabled real-time automated state would involve, in some countries fundamental rethinking and radical redesign [as suggested in the case of BPR by Hammer and Champy (1993)] of processes at both local and national government levels. In this context, a range of typical public administrative processes such as accountability arrangements, budgeting, monitoring and reporting, decision-making and performance management can be reengineered with the influence of ICT that offers e-government products and services (Navarra and Cornford, 2003). However, the level of ICT enabled change to state services will depend to a large extent on the ICT resources available to the different governments (Gant and Gant 2002) and their attitude to IT enabled change (Heeks, 2000).

Given this overall context, Layne and Lee’s (2001) representation of the different stages and dimensions of e-government development is significant (figure 2). As outlined in figure 2 it captures the process transformation and integration aspects and the scope needed for a one-stop e-government web portal.

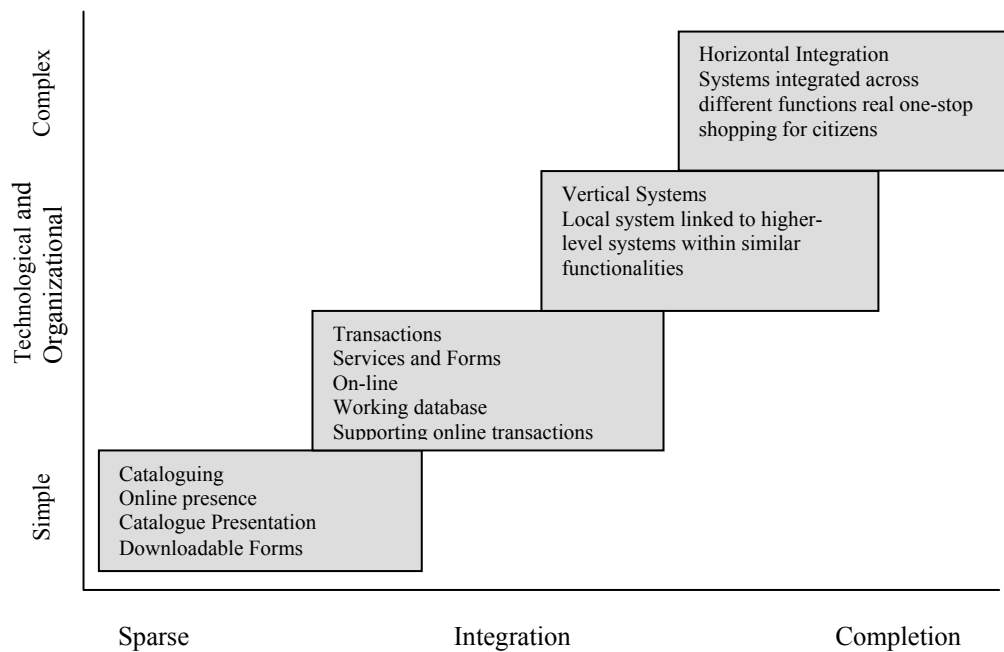


Figure 2: Dimensions and Stages of E-Government Development
(Adapted from Layne and Lee 2001)

In the *cataloguing stage*, governments focus on establishing an online presence by publishing index pages or a localised site where electronic documents offer the public information relating to government services (Layne and Lee, 2001). This is the simplest and least expensive form of web presence and from the government's perspective it helps to save staff time spent on answering basic questions (Bonham et al., 2003). In the *transaction stage* the focus is on connecting the internal government systems to online interfaces thus allowing citizens to electronically transact with government institutions. While the speed of which this sector has progressed is disappointing, the process of developing and maintaining services in this stage are more complex than the first stage (Vassilakis et al., 2003). In the third stage, *vertical integration*, federal, state and local governments are expected to connect to each other to offer a higher level of integrated service. The main challenge is to ensure compatibility and interoperability between various government databases (Layne and Lee, 2001). The most complex stage is *horizontal integration* where different services and functions within the same level of government are integrated to provide a one-stop-shop for all major services (Reffat, 2003). This suggests Bonham et al., (2003) requires a transformation of how government functions are conceived, organised and executed and is more difficult to realise than the first three stages.

The aforementioned framework is not only theoretical but has been researched in the real life. Gant and Chen (2001) state that, different countries around the world have strived at different speeds to move from the *cataloguing* to *transaction* stage. The UK is no exception where the country has managed to realise transaction level services in key processes such e-billing, e-payments, e-voting and e-forms.

The current program of e-government in the UK focuses on e-enabling local authorities in different counties or regions in the UK. Typical services as stated before include making government information available on the Internet, electronic voting and online bill payments at local or regional level. Although these services may satisfy local e-government strategy, they fail to offer a single point of contact for integrated government services at a national level. In the national context of the UK, although the ukonline.gov.uk web portal provides a single point of contact for the e-government initiative in the country, it is yet to function as a proper web portal [one that offers a gateway to local and national government websites and provides a single point of contact for online service delivery (Gant and Gant, 2002)]. To appreciate the full potential of a web portal in the e-government context therefore, Burns and Robbins (2001) for instance propose the concept of 'value alliances' or 'virtual agency models', which will integrate a range of government services and facilities and offer them as single point of contact. This framework suggested by Laynes and Lee (2001) assisted the researchers to identify the factors that prevent or promote e-government in the selected local authority

Barriers Currently Impeding E-Government

As with any other new technology or organisational concept, the introduction of e-government to a country will result in a number of barriers for the citizens and governments alike (Margetts and Dunleavy, 2002). Overcoming these barriers therefore would be one of the biggest challenges that the government and citizens of currently face. These barriers can be divided into the demand side (the citizens perspective) and supply side (the governments perspective) factors as outlined below (ibid).

Demand Side Barriers: The Citizens' Perspective

Many citizens have a minimal understanding of how government processes are executed or decisions are made. This lack of awareness according to Reffat (2003) can prevent the citizens from actively participating in government services. Contrastingly, some observers have pointed out that governments often interact more with the elderly, poor, language limited and less educated people, a group who are less likely have access to the internet (Fang, 2002).

Another aspect are the benefits and experience that citizens would get by using online services (Margetts and Dunleavy, 2002). For instance a badly designed website will result in an unpleasant user experience of e-government for the citizens. Trust is another barrier that e-government has to overcome. While lack of trust can hinder adoption of e-commerce in general (Bhattacharjee, 2002), the same applies to the case government to citizens relationships that involves sharing of personal information on the Internet (Navarra and Cornford, 2003)

Supply Side Barriers: The Government's Perspective

From the government's perspective, sharing information using Intranets and linking with other government institutions may threaten the hierarchies of local government employees. Furthermore, some may also feel threatened when new web technologies are introduced thus creating a resistance to change (Margetts and Dunleavy, 2002).

A lack of strategy and organisation of information can also impact the effectiveness and usefulness of e-government. Reffat (2003) argues that an information management framework is necessary to make use of various government information and records, which many governments are ignoring in their rush to e-enable their services.

Another issue is the lack of funding to attract the necessary skilled IT labour into government service. Below market salaries and the inability of states to offer benefits to IT staff can lead to outsourcing resulting in delayed projects (Federal Computer Weekly, 2001). On the other hand, lack of funding for the actual e-government initiatives themselves can be a major problem. In the UK, the way in which local authorities are segmented into different groups can also affect their chances for funding. Most government funding in the UK come in packages which have to be spent within a financial year or within the particular group or area that has been targeted for regeneration (www.computerweekly.com).

Bonham *et al.*, (2003) state that UK data protection and privacy laws are hindering the progress of e-government where many public sector organisations are finding it hard to meet the demands of existing laws. It is argued that countries with a more chequered history of 'government respect for citizens' privacy' will struggle to overcome the trust and security issues involved in online transactions (Harris and Schwartz, 2000). Furthermore, Javenpaa and Tractinsky (1999) debate the need for citizens to be informed of the social, financial and privacy risks when engaging in online transactions. The recent case of the UK Inland Revenue office (income tax office) suspending parts of their self-assessment tax service is one such example of the risks of online services (<http://news.bbc.co.uk>).

RESEARCH APPROACH

The purpose of this research is to investigate at a deep level the barriers and success factors that are driving e-government initiatives at the local level. Therefore a case study was considered to be suitable for the purposes of this research and begun at a large local authority from the beginning of 2003 and is still continuing. By undertaking such research a snapshot and short-term view is prevented and instead a longitudinal result will be obtained. Such a study will assist the researchers in identifying the barriers and changes obtained by e-government.

The data for this research was collected using multi-methods- interviews (Yin, 1994) and surveys (Miles & Huberman, 1994). These methods were selected in order to prevent a bias from emerging and also the paucity of prior theoretical and empirical research necessitates 'going into the field'. Whilst much of the e-government literature has been focused upon various diverse issues, this research intended to provide an in-depth study of e-government initiatives at local level. Semi-structured interviews (Yin, 1994) were initially conducted with two senior managers-the e-government Programme Manager, and IT Director in the Libraries of Hillingdon, one middle manager and two operational level staff. Follow-up structured interviews were thereafter arranged in order to confirm the results that were obtained by the researchers. This was complimented with one hundred survey questionnaires, which were distributed within the borough by randomly selecting candidates at a local shopping centre.

RESEARCH FINDINGS: FACTORS INFLUENCING THE DEPLOYMENT OF E-GOVERNMENT IN A LOCAL BOROUGH IN THE UK

This section describes the efforts of a local authority in the UK, Hillingdon, in deploying e-government and the various barriers they faced. Hillingdon was formed in 1965 and is London's second largest unitary borough covering 42 square miles. Hillingdon has a population of 250,000 people from diverse backgrounds, and ethnic minorities.

Hillingdon begun its e-government programme in July 2001 and the first phase of implementation focused largely on improving customer relationship management (CRM) processes. A strategic e-government statement is prepared annually by the borough which lays out the improvement plans for the year. The new plans for 2003 and 2004 include a second phase of implementation, which focuses on business process reengineering and improving networking facilities, hardware, operating systems and databases. For this, Hillingdon is working with leading IS/IT vendors such as Cisco and Novell.

The Government's Perspective

This section details the more positive factors that are encouraging e-government in the borough.

Technological Advancements: Hillingdon has already connected and integrated their outlying offices in a wide area network (WAN) configuration resulting for the first time in 300 home working and mobile connections, video conferencing and electronic learning facilities. The *e-government programme manager* points out that a number of security features such as the use of firewalls, load balancing software, single directory structures and passwords are being implemented to compliment the above. Subsequently there is an encouragement towards digital media and is helping to convert many manual and tedious tasks currently performed in the borough offices.

Improved Services: The borough is focusing on providing a number of key services that are likely to have a positive impact on its citizens. These include free Internet access through public terminals and kiosks, free access to information through digital television, e-payments, e-billing and e-voting. Moreover, the borough is working hard to link up with other boroughs (local governments) and local businesses in an effort to offer G2G and G2B services. A more publicised G2B alliance is Hillingdon's link with British Airports Authority (BAA) and British Airways (BA).

On the negative side, there were many issues that were impeding the deployment of e-government and related services in Hillingdon. The *e-government programme manager* in particular was quick to point out a number of barriers that were hindering their e-government initiative. These can be summarised as follows:

Accessibility of Website: A senior source pointed out that Hillingdon has an ageing population who are more comfortable with face-to-face meetings with a borough employee than using online services. Furthermore, financial constraints prevent many citizens from owning a PC. More importantly the cost of broadband services and Internet access prevent the less privileged from using e-services. Research carried out by the council during the last two years indicate that around 70% of the residents believe the telephone is the easiest mode of access to information, and many thought that there was limited demand for online services.

Paradigm Shift: Not surprisingly, some staff are resisting the change in roles and responsibilities and are exhibiting a reluctance to switch to the new way of working. While the majority of the staffs are residents in the borough, the *e-government programme manager* disappointingly stated, "it seems like ICT training has had little impact so far in increasing their motivation"

Financial Constraints: Many senior managers were frustrated with the lack of funding for e-government initiatives at local authority level. Hillingdon's efforts were constrained due to insufficient funding and the fact that government funding comes in packages for each financial year. This method of funding is hindering senior management plans for a long-term e-government strategic plan for the borough.

Political Constraints: Although the senior and middle management in the Hillingdon local authority offices embrace e-government and are largely committed to the initiative, various political factors influence the level and speed of progress made in their various projects. Two such factors are the allocation of funding and resources needed to redesign and e-enable current business processes.

Technology Constraints: As pointed out by the *IT manager* at Hillingdon council, the process of tendering and procuring the technology and e-business application software needed for e-government is quite a complex task considering that Hillingdon has limited experience of e-business. The *programme manager* added, "there are lots of presentations given by reputed companies, which makes the task of selecting the format of the electronic forms and screens, for instance quite difficult."

Data Protection and Security Constraints: As identified in the literature, UK data protection laws, cyber crime and credit card fraud proves a barrier because people are less confident of disclosing their personal information on the Internet.

Language Barriers: The *e-government programme manager* also suggested that some of Hillingdon's diverse population and ethnic minorities who do not communicate in English are unable to use e-services. These categories of people prefer information in hard (paper) format in their own languages.

The Citizens' Perspective

While the above factors were the state's perceived influences on e-government, we summarise the results of a survey on the citizens of Hillingdon and highlight below their views on e-government. Around one hundred questionnaires were distributed amongst the Hillingdon residents and sixty one usable responses were received. The survey respondents were categorised into three main areas, age group, gender and occupation.

Not surprisingly, the survey results indicated that the younger generation (16-30) and private sector employed workers accessed the Internet and the councils e-government website more frequently than any other category. With respect to access to the different services offered by the council's e-government website, the results were spread across the age groups and gender as outlined in table 1.

Age Group	Learning	Leisure	Care	Complaints	Job Search
16-30	26	26	5	16	26
30-50	35	35	0	5	20
Over 50	0	33	0	11	6
Gender					
Male	30	24	0	12	9
Female	15	43	4	9	30

Table 1: Access to Local e-Government Services by Age and Gender
(Shown as a % from 61 responses)

As indicated in table 1 above some of the services offered by Hillingdon Council are popular with residents. Frequently used services include, reservation of books from local libraries (learning), inquiring and booking of local sports and recreational facilities (leisure) and filing online complaint forms (complaints). The libraries initiative known as the 'Peoples' Network' has been tremendously successful at Hillingdon such that the library has been winning awards for its efforts. These include providing training and education services and computing services to the disadvantaged citizens such as, the unemployed and older citizens. With respect to user satisfaction and trust two issues that arise in the offering of online products and services, the survey results indicated a mixed reaction. Interestingly, many respondents irrespective of age or occupation indicated that they would benefit from the services offered through the e-government initiative at Hillingdon.

DISCUSSION AND CONCLUSION

The literature has suggested that ICT is transforming all aspects of society and will ensure that every citizen has basic level of universal access to public services and information (Selwyn, 2003). However, our empirical research suggests that only groups of citizens such as the younger generation and private sector workers had access to the Internet in the Hillingdon borough of London. While it is imperative to have Internet access to use e-government services, our research suggests that much has to be done in the UK to make Internet access affordably available to citizens.

The literature has also suggested that trust and security (Harris and Schwartz, 2000; Jarvenpaa and Tractinsky, 1999) were key areas that needed attention in the deployment of e-government. This is substantiated in the empirical evidence, which clearly indicates that a majority of citizens, particularly the over 50-age group and pensioners, did not feel comfortable with online services. In a borough such as Hillingdon, which has an ageing population and 19% ethnic minorities, education and awareness are crucial factors. Therefore, given the context of the empirical findings at Hillingdon council, it can be argued that the UK has barriers such as diffusion, awareness, and tailored content when deploying e-government at the local level. Although this research was undertaken upon a small population, from the secondary data that is available it is known that these are factors that the national level of e-government is also facing. With regards to the framework, it became evident that the local e-government initiative at the borough of Hillingdon has struggled to move beyond the *cataloguing* stage (figure 2) due to various financial, political, social and resource constraints. While the impeding effects of some of these constraints are minor and can be overcome with proper planning, reengineering and education, some remained a major threat to realising e-government at Hillingdon. These constraints can be mapped against the e-government literature and generalised in the national context as outlined in table 4.

Constraint	According to E-Government Literature	According To Empirical Findings in the UK
<i>The Citizens Perspective</i>		
Lack of Internet Access	*	**
Disparities in Computer knowledge	*	*
Generation Gap		***
Lack of Awareness	*	***
Language Barrier		*
Security Fears	**	**
Lack of Trust	*	**
Un-user-friendly Websites	*	*
<i>The Government's Perspective</i>		
Lack of Finances	*	**
Lack of Skills and Technology	*	**
Political Pressures		**
Data Protection and Security Laws	*	*
Staff Resistance to Change	*	*

Table 4: Factors Influencing E-Government Implementation in the UK
(Note: '**' indicates the impact of the factors on e-government implementation)

On a more positive note a majority of the citizens of Hillingdon thought that the services offered through e-government such as e-billing, e-payments, e-voting, and e-forms would benefit them. This is consistent with the literature (Gritzalis, 2002; Gant and Gant, 2001) that identifies these services as popular forms of service in e-government. In this context, it is important that these services are exploited and their benefits emphasised to the citizens of the borough and the UK in general. Therefore, we argue that a more positive and strong marketing campaign is needed in the UK at both the local and national government level to promote e-government. Such a campaign could involve stimulating public awareness of e-government through government sponsored workshops and seminars at both local and national level. Mailing newsletters to citizens, displaying posters and banners in public places, and using public media services to advertise the benefits of e-government could support this. However, it is clear that moving beyond the *cataloguing* stage to *vertical* and *horizontal* integration (figure 2) in the UK will mean extending the government's deadline of realising nationwide e-governance by 2005. Moreover, the paradigm shift and change of organisational culture that e-government would introduce to government institutions would certainly face resistance as seen in other forms of organisational change such as business process reengineering (Sahay and Walsham, 1997; Avgerou, 1993).

Whilst this research has provided a beginning to the study of e-government in a local authority, there is much to be done. First, the sample population is to include residents of the whole region and this is going to be achieved by obtaining contact information from the electoral register. Second, the research that will be undertaken in the future will have a quantitative approach and will obtain more data using surveys and forming hypothesis that will be verified and tested within the population.

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