

## ***DEVELOPING THE EGOVERNMENT RESEARCH AGENDA***

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### ***Abstract***

This paper presents an exploratory research project to determine the needs for future eGovernment research. The project aimed particularly at getting relevant stakeholder views as a contrast to the received academic wisdom or political rhetoric. This paper outlines the need for such fieldwork and discusses the methodology adopted to elicit the stakeholders' views without influencing the debate. The VIEGO workshops have shown that an eGovernment research agenda will require a multi-disciplinary approach involving a combination of social, technological and organisational issues. The primary concerns of stakeholders are not to develop more novel IT but to acquire the means to cope with constant change, coordinate development and extend participation.

**Keywords:** *eGovernment, VIEGO, workshop organisation, grounded methods, research agenda.*

### **1 INTRODUCTION**

Expenditure on information and communications technology (ICT) has been a major element in public spending over the first half of this decade. However, much of the growth in eGovernment systems has been driven by a national or international political agenda to achieve significant implementation within a relatively short time-scale. There is thus a perceived need to take stock of this achievement and its relevance for future academic research.

VIEGO – a Virtual Institute for Electronic Government Research – was born out of a vision to create a virtual research institute that will address the most relevant problems by bringing together academics from many disciplines in different UK Universities. The initial activity for VIEGO has, therefore, been driven by the need to identify relevant key areas for future research. In this endeavour it has departed from existing eGovernment research by placing particular emphasis on field data for the definition of its research themes rather than relying exclusively on those found in the relevant academic discourse. It focused on setting out the critical research themes ***that the stakeholders consider to be key questions*** for the future of eGovernment.

The purpose of this paper is to report on the methods chosen for the investigation and some of the key themes that emerged. It is important to note that with its aim to widen the breadth of

the eGovernment research agenda and to expose critical themes for future research VIEGO did not seek to assess the current state of the art.

In the next section the rapid growth in eGovernment is outlined showing the factors that have created a potential gap between academic and practitioner perceptions. We then present the methodology adopted by VIEGO. The next section reports three key themes identified by VIEGO and in the last section some conclusions are drawn from the exercise.

## 2 BACKGROUND

The UK government made its move into eGovernment – putting government on the web – in 1994 with the establishment of a central government website at the address open.gov.uk. But this did not take on a high profile in the political agenda until the publication of the white paper Modernising Government (Cabinet Office, 1999). Then in 2000 the Prime Minister set the target for all public services to be available online by 2005 (EC, 2005).

This rise in the political profile was paralleled by changes in the way ICT usage was perceived. The beginning the eEverything agenda was perceived as a revolution in communications. In eGovernment this led initially to a focus on providing a new communications channel with little change in the way the back office and physical aspects of government worked. Typical maturity models (Irani et al. 2006) describe these stages as information publishing (web sites and portals) followed by simple interaction (through generic systems e-mail, ‘chat rooms’ and forums). The next, and more difficult, stages of maturity are the transactional stage (direct citizen interaction with the system) and integration stage (linking information systems across government bodies).

The movement to the transaction level of maturity broadens the scope by drawing internal and back office systems into the equation. This in turn forces agencies to look much more widely at the service being taken on-line and has the potential to trigger process re-engineering and transformation of the service being delivered (Irani et al. 2006). It is this potential of ICT to be a catalyst for change that lies behind the political enthusiasm for eGovernment, as exemplified in the statement:

*“Profound changes [are needed] to the way Government works... Electronic service delivery [eGovernment] will be a key source of innovation”*

(Rt Hon Tony Blair MP, Prime Minister, 2000)

By 2004 the European Commission were defining eGovernment as simply *“the use of Information and Communication Technology (ICT) in public administration ... The potential of eGovernment goes far beyond the early achievements of bringing public services online.”* (EC, 2004, forward).

Over this same period the investment of UK taxes in ICT projects has been massive. In 2002 central government alone had about 100 major ICT projects underway, with a total value of £10 billion (PAC, 2002). Public spending in 2002/3 allocated £2 billion a year to electronic service delivery (e-Envoy, 2002). There was also an investment allocation of £511 million for local government projects.

In addition the 25 local government Pathfinder projects were to be followed up with an £80 million National Projects programme (e-Envoy, 2002). Most of these projects were short term with one to two years between inception and completion. They engage significant numbers of staff over a short period to achieve delivery. This contrasts strongly with

academic research where budgets and staffing levels are significantly lower and inception to delivery is three to five years. The emphasis on evaluation has also been lower and more pragmatic than for academic research activities (Kor et al. 2007).

Thus in the first half of the decade there has been massive investment, significant numbers of short term delivery oriented projects and little by way of academic engagement with the process. There is significant potential for the gap between academic and practitioner perceptions to have formed. The UK's strategic need to establish its own Government IT Academy (Cabinet Office, 2005) without reference to any existing academic resource (Cabinet Office, 2006) lends weight to this hypothesis.

### 3 METHODOLOGY

If the research agenda adopted by VIEGO was to be relevant to practice in eGovernment it needed to look to practitioners rather than existing academic sources. The methodology has therefore been based around the need to engage in a dialogue with people in the field who were active in recent or current eGovernment initiatives. It is important to understand the gap between the two communities – if they are unaware of academic insights then there is still a job to be done in getting the dissemination right.

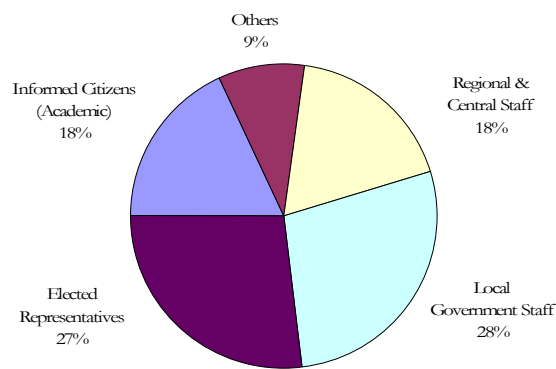
The main research tool employed for the realisation of VIEGO's research objectives was the organization of consultation workshops. Five VIEGO workshops were organised around the UK (two in London and one each in Cardiff, Manchester and Edinburgh) to consult with different groups of stakeholders concerning their views on current eGovernment initiatives, as well as on issues and topics they considered to be important for practice in the future.

One of the major difficulties faced by the VIEGO researchers was to capture unbiased individual inputs without ignoring group dynamics. It was important to get an accurate record of the discussion. To achieve this one team of researchers led the discussion while another group of two or three researchers was making a record of the debate. Most of the discussion was also audio recorded.

It was also important to structure the discussion with the researchers putting a minimum of content into the discussion. They began with a cards technique to start the debate off from a neutral point. Immediately after an introduction to the objectives of the consultation workshop blank cards were distributed to the participants. Each participant was asked to write on separate cards short descriptions of the issues they regarded as the most important in the area of eGovernment.

After each participant had noted several concerns the facilitator would begin collecting the cards into apparently related groups and invite those present to review the grouping. They were free to shuffle cards between groups, create new groups, re-title them or add further cards until they reached some sort of consensus. This structure allowed the group the opportunity to reflect on individual opinions without each member being influenced by the a priori opinions of the rest of the participants.

A minimum of common understanding was deemed necessary for a meaningful dialogue between the various stakeholders. Hence the participants were provided with a list of working definitions that were used as a basis for further discussion. The definitions themselves were the product of the workshops and they evolved over the sessions into the final set in the report



*Figure 1 VIEGO Participants by stakeholder type*

hours of audio recordings were obtained from the 5 workshops. The researchers who had taken the record followed up the sessions by subjecting the collected data to a grounded analysis methodology. This style of analysis seeks to extract relevant stories and themes from the record without applying a pre-existing ideological framework (see for example Day 1993). For each workshop the analysis produced a documented set of findings for that workshop before they were merged to form the final report.

Once drafting was complete the report was reviewed in relation to UK government strategy (Cabinet Office, 2005) and the draft report was also made available to members of national eGovernment organisations for comment. To ensure that this did not mask the findings from the workshop participants, the results of the review are presented as a postscript without modifying the main report (Irani and Elliman, 2007).

### 3.1 The Participants

The attendees for each workshop were self-selecting groups responding to open invitations to attend. These invitations were distributed through the CIPFA and SOCTIM networks of eGovernment practitioners and to public sector members of ISEing. The VIEGO consultation meetings were particularly careful to get input from a wide spectrum of representatives from different types of stakeholders, as shown in Figure 1.

The first workshop, held in London, had possibly the most diverse composition ranging from managers, public sector employees local government officials, to academics and independent consultants. Subsequent workshops had more focused groups. The second workshop in Cardiff comprised almost exclusively of Welsh assembly and local government managers with interests that focused on issues of eGovernment evaluation and measurements. In the third workshop, held in Manchester, the participants were primarily managers and IT experts and their interests related to technological and organisational issues.

The fourth workshop in Edinburgh had participation from the Scottish Executive but was one where academics had a predominant presence and the issues dominating the discussion were of a more fundamental nature. Although the intention was to avoid established academic views in favour of more direct stakeholder input, academic colleagues aware of VIEGO were among the most enthusiastic participants. This was accepted on the understanding that their

(Irani and Elliman, 2007). Also at this point issues raised in previous workshops were briefly introduced to add to the collective pot of ideas.

The workshop then broke for lunch and time for informal discussion. In the second stage each of the agreed sets of questions were reviewed in a round table exploration of the research ideas and questions. During this process additional notes were added on flip charts.

In all 115 initial statements cards and over 20 flip chart pages and several

role in the workshops was to listen and to participate as informed citizens rather than representatives of academia.

In the final workshop, again held in London, there was a deliberate attempt to get a view from the position of elected representatives and the workshop invitation was circulated to about 2,000 elected members in the London area. Thus the interests expressed moved to how e-inclusion and participation could influence the decision making process and the role of elected representatives in particular.

#### **4 THE FINDINGS**

The findings from the VIEGO workshops (Irani and Elliman, 2007) demonstrated that an eGovernment research agenda involves a combination of social, technological and organisational issues at both governmental and individual citizen level. This was ultimately driven by empirical case-based experience and active participation in eGovernment processes. This classification allowed for more specific factors to emerge as shown in Figure 2 below.

The analysis shows that a multi-disciplinary approach is essential to the investigation and research of eGovernment phenomena. This must involve a deep understanding of the management of systems, information, policies, processes, security and change. Inherent and vital components underpinning these three pillars of eGovernment research undoubtedly involve the relationship between government bodies and the citizen, the development and growth of which defines the future trajectory of this field.

There was a widespread interest in the development of technologies and policies for eGovernment among the contributors; in particular, there was an explicit focus on future developments and change. Although the political rhetoric has seen technology as a solution, it tended to surface quite often as the creator of problems rather than a solution. The key issues that emerge from the debate are about the fit of technology with business processes rather than developing the right technology.

As indicated above the findings covered over 19 Technical, 20 Social and 65 Organisational research questions. This highlights the depth and complexity of eGovernment research and practice. Although the classification is particularly useful for analytical purposes; the issues placed under each thematic heading are closely interlinked to ones in other categories.

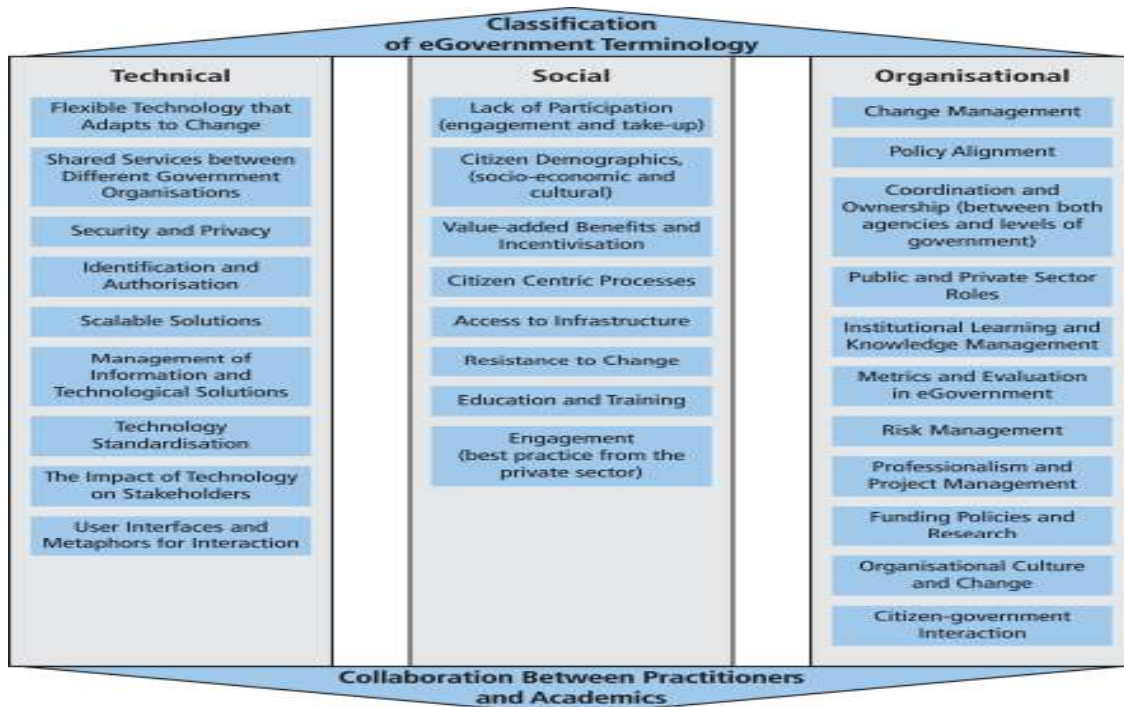


Figure 2. Key themes within the eGovernment research agenda

Rather than attempt to deal with all the questions and issues raised in the report (Irani and Elliman, 2007) this paper will focus on three key themes that appear to run through the data:

- Constant change as a natural occurrence in twenty-first century governmental institutions.
- Co-ordination and integration of inter-governmental agencies at all levels.
- Lack of participation or engagement with government.

#### 4.1 Constant change

In the technology area the problem of scalability and flexibility systems and processes was one most often cited issues. There is a fundamental need to understand how to create flexible systems that can adapt and change with demand. The constantly changing nature of eGovernment services also meant that accessibility versus information security is an important issue, although there was no consensus regarding the nature of what constitutes good or appropriate 'access' to information as such.

The emphasis was often on the impact of technology rather than the technology itself. Questions such as the respective roles of local and central government, education in the use of IT and the potential for positive impact on the environment were raised. However there were also concerns about the trend to dehumanise interaction between citizens and government.

This need to understand and manage change flows over into the organisational area as a range of eGovernment project management issues. One key cultural and organisational question was that of how to cope with organisational inertia and resistance to change by senior management and other stakeholders. Another related to management of risk and failure, which were also identified as areas of concern. A particularly important area of risk was identified as access to eGovernment services and the associated issue of community inclusion (the so-called “digital divide”).

The extent to which such contingent thinking has been part of the eGovernment agenda was questioned. Learning from eGovernment experiences in terms of knowledge management and organisational learning was identified as another key theme. The need for effective and efficient knowledge management arose in one form or another in all of the workshops.

In summary it was accepted that constant change is a natural occurrence in twenty-first century governmental institutions and it impacts people, processes and systems in equal measure. The need to understand how to create flexible systems that can adapt and change with demand is a critical factor for the successful exploitation of ICT. The means to manage change is also critical and we must clarify the respective roles of the private and public sectors.

#### **4.2 Co-ordination and integration**

Although many of the organisational issues could be described as managerial the debate was more disjointed and raised questions that can be broadly classified as concerning government structures. Participants were concerned with the nature of eGovernment structure, agencies and their relationship to the services provided. In particular they saw the need to link the research work undertaken by different agencies, and academic bodies, with the needs of eGovernment. Similarly local, central and European Union eGovernment policies needed to be in tune with each other. It is in this context that an agreed and stable definition of eGovernment becomes critical.

How eGovernment related policy should be determined was discussed at length. This related to all levels of eGovernment implementation, ranging from citizen-government interaction to intra-governmental departmental co-ordination and strategic planning of future eGovernment initiatives. Identifying clear, objective and well-grounded policies were seen to be critical. Key issues are the need for all stakeholders to have a sense of ownership and the need for “joined up” strategic planning.

eGovernment is not a collection of isolated projects but an ongoing activity like human resource and treasury management. Again the need for knowledge management and organisational learning to build and maintain a body of knowledge within and across agencies is vital.

There is also cross over to the technology area where a predominant theme in all consultations was the issue of technical interoperability and standardisation. The issues raised were the technical tools needed for integration, and in particular data or services standardisation. The use of shared services raised issues about managing both the technology and the organisation as another very strong theme. Not surprisingly debates about shared data and appropriate access also identified the twin but distinct issues of privacy and security, and identification and authentication.

To summarise co-ordination and integration of inter-governmental agencies at all levels (joined-up government) is important. Their roles, processes and policies, which are reflected in systems and in the interaction with stakeholders, are all fundamental to eGovernment success. Co-ordination needs to include research and development activities, the eGovernment policy-making process, and to follow right through to co-ordinated exploitation of results.

### **4.3 Lack of participation or engagement**

The critical issues identified around the social area focused on both the citizen and civil society. The question of how to engage stakeholders and how to manage social interactions and communications was a predominant concern under this heading. Different opinions concerning what constitutes participation or engagement in eGovernment again highlighted the general need for clear definitions.

A central concern was to put the citizen in the centre of the eGovernment process. This relates to both asking the citizen how they envisage the future of eGovernment. On more than one occasion participants asked: *“Where is the evidence of citizen demand for eGovernment?”* This request illustrates another dichotomy – the distinction between citizens and other stakeholders. There is a clear need to identify all the stakeholders in eGovernment and assess the legitimacy, urgency and weight that should be attached to the different groups.

The issue of creating incentives was presented as a means for encouraging citizens and other stakeholders to use eGovernment services. Several approaches to the problem, ranging from technological solutions (e.g. multiple delivery channels) to policy approaches (e.g. a focused effort to engage stakeholders) were postulated. Seeking to learn from the most popular existing and historical eGovernment initiatives may provide a catalyst for future research. Another important prerequisite for widespread participation is the recognition that the UK has a rich cultural diversity.

We again see a cross over into the organisational pillar with a concern for political engagement, policy-making and the mandate to deliver automated, technology-supported services. The emphasis shifts from seeing eGovernment services as a heuristic for engaging the citizen in the political process to a managerial perspective that asks how such engagement should be managed. Political issues about the impact of political processes and the affect on decision-making also emerged. Participants also questioned how much the eGovernment agenda has been used as a means for pursuing political ends.

The whole issue of lack of participation or engagement with government emerged as a serious multi faceted concern. It does not just apply to the socially excluded or even to citizens at large but to the change resistance from stakeholders throughout the system. We need to understand the factors that affect participation and to devise strategies that can produce significant internal and external changes.

### **4.4 Measurement and evaluation**

One issue emerged that is critical to the debate but doesn't fit neatly under just one of the three main themes above. In all the workshops, it was recognised that measurement and evaluation techniques were necessary for realising many of the learning, organisational and managerial perspectives on eGovernment. In particular there was a need to understand social



value, identified within the social pillar, is an important prerequisite to establishing appropriate evaluation strategies.

## 5 CONCLUSIONS

At first sight prominent issues in the public debate (such as e-Inclusion and IT professionalism) do not surface as single top-level issues in this analysis. However, they can be found in the issue tables as cross cutting concerns reflected in questions spread throughout the research agenda (Irani and Elliman, 2007). In particular, the new terminology Transformational Government does not emerge as a specific topic because, like eGovernment, it is in effect an umbrella for the entire research agenda.

Findings from all the VIEGO workshops indicate that the themes with which various stakeholders are preoccupied oscillate around a common core. All participants were interested in getting a clearer view of what users of eGovernment services want; how to provide eGovernment services; and how they may be evaluated and measured. This understanding is essential for the design meaningful policies.

Throughout this paper the issues are presented as closely as possible to the questions and concerns expressed during the VIEGO workshops. As indicated in the postscript to the VIEGO report several of the issues are paralleled in 'official' thinking. However, they have emerged with different flavours and emphases in the analysis of the workshop data. Drawing out these distinctions is a valuable exercise and validates the methodological decisions described in this paper.

In conclusion, the research questions coming from eGovernment stakeholders appear to involve complex social and managerial issues driving technological elements or research. In addition there seems to be a general consensus that existing eGovernment activities remain to be evaluated and measured in order to better design future services, using consensus impact and focus from citizen stakeholder groups. Clearly the consultation workshops have shown that there are more questions raised than can be answered. Future research, which expands upon these VIEGO consultations, should seek to explore and provide more depth to our understanding of the issues identified.

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## References

- Cabinet Office. 1999. 'Modernising Government', command paper Cm 4310, HM Government, London, UK, 30 March 1999. URL: <http://www.archive.official-documents.co.uk/document/cm43/4310/4310.htm>, Accessed 15/5/07

- Cabinet Office. 2005. 'Transformational Government: Enabled by Technology', command paper Cm 6683, HM Government, London, UK, November 2005. URL: <http://www.cio.gov.uk/documents/pdf/transgov/transgov-strategy.pdf>, Accessed 15/5/07
- Cabinet Office. 2006. 'Transformational Government: Implementation Plan', HM Government, London, UK, URL: <http://www.cio.gov.uk/documents/pdf/transgov/transgovt.pdf>, Accessed 15/5/07
- Day, I. 1993. 'Qualitative Data Analysis: A User-Friendly Guide for Social Scientists'. London & New York, Routledge.
- EC: European Commission. 2004. 'eGovernment Resource Book: Synopses of IST projects relating to eGovernment', Brussels, October 2004. URL: [http://ec.europa.eu/information\\_society/activities/egovernment\\_research/doc/resource\\_book\\_oct04.pdf](http://ec.europa.eu/information_society/activities/egovernment_research/doc/resource_book_oct04.pdf), Accessed 15/5/07
- EC: European Commission. 2005. 'eGovernment in the United Kingdom', June 2005, URL: <http://europa.eu.int/idabc/servlets/Doc?id=21032>, Accessed 15/5/07
- e-Envoy. 2002. 'UK online: Annual Report 2002', Office of the e-Envoy (Cabinet Office), London, UK, August 2002, URL: [http://archive.cabinetoffice.gov.uk/e-envoy/reports-annrep-2002-pdf/\\$file/annualreport02.pdf](http://archive.cabinetoffice.gov.uk/e-envoy/reports-annrep-2002-pdf/$file/annualreport02.pdf), Accessed 15/5/07
- Irani, Z., Al-Sebie, M. and Elliman, T. 2006. 'Transaction Stage of eGovernment Systems: Identification of its Location & Importance'. *Hawaii International Conference on System Sciences (HICSS-39)*, Grand Hyatt Regency Resort Kauai, Hawaii, January 4-7, 2006
- Irani, Z. and Elliman, T. 2007. 'Electronic Transformation of Government in the UK: A Research Agenda', A Project VIEGO Report, ISBN 978-1-902316-53-6, Brunel University, London, URL: [http://www.iseing.org/iseing/Resources/VIEGO\\_Report.pdf](http://www.iseing.org/iseing/Resources/VIEGO_Report.pdf), Accessed 30/4/2007.
- Kor A., Orange, G., Elliman, T and Tassabehji, R. 2007. 'A Value Oriented Conceptual Model for Innovation in Local Government'. AMCIS 2007: Americas Conference on Information Systems, 9-112 August, 2007, Keystone, Colorado, USA.
- PAC: Public Accounts Committee. 2002 'Improving Public Services Through eGovernment', House of Commons report HC845, London, UK, August 2002, URL: <http://www.publications.parliament.uk/pa/cm200102/cmselect/cmpubacc/845/84503.htm>, Accessed 15/5/07