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## **An Ontology-based Web Portal to Support Continuous, Adaptable, Rigorous, Reflective and Sustainable Evaluation of eGovernment Systems (CARRSE)**

Ah Lian Kor, Graham Orange, Alan Burke  
Leeds Metropolitan University

### **1. BACKGROUND**

'eGovernment is the use of technology to enhance the access to and delivery of government services to benefit citizens, business partners, and employees. It has the power to create a new mode of public service where all public organisations deliver a modernised, integrated, and seamless service for their citizens' (Silcock, 2001). In order to reap the full benefits of this innovation, profound changes have to be made to the way government works (Blair, 2000). However, such a level of change cannot be achieved by technology alone viewing the fact that technology has to be developed and operate within an environmental context that clearly has tremendous impact on it (Avison and Fitzgerald, 2003). Inevitably, such a profound change is always going to be difficult to evaluate due to its increasingly dynamic and complex multi-dimensions involving the organisational, social, political, cultural, and technical factors. Undeniably, local authorities and government agencies need to evaluate the effects or the success of this newly implemented technology due to the hefty investment Government has put into it. According to the Committee of Public Accounts (2002), all government departments currently have underway 100 major IT projects with a total value of £10 billion. This investment is part of the government's strategy to provide high quality and a full range public services for all, shaped by individuals and communities to meet their needs, delivering value for money and visible results (ODPM, 2006b). Also, it is intended to enable departments to improve their operational efficiency by replacing labour intensive processes with eGovernment systems (CPA, 2002). The Gershon Report (2004) identifies several areas (e.g. procurement, support services, productive time, transactions) of potential efficiency gains in the central government departments. Through the Spending Review 2004 (HM Treasury, 2004), the outcome of the report is translated into an annual efficiency target of 2.5% over the next three financial years across the public sector (from 2004/05 to 2007/08) which amounts to at least £6.45 billion per annum by 2007/08 (ODPM, 2004). In the ODPM guide (2004), efficiency gains are categorised into cashable (e.g. reduction of costs) and non-cashable gains (e.g. improved outputs or quality of services) which are both expressed in Pounds Sterling. It is a statutory requirement that all local authorities self-assess their efficiency gains, and in the month of April, electronically submit a copy of an Annual Efficiency Statement to the ODPM (I&DeA, 2006). Some of the guidance notes produced to support the efficiency agenda relate to efficiency matters (I&DeA, 2005), asset management and flexible working (OGC, 2005a), measurement of productive time (OGC, 2005b), technical efficiency (ODPM: ETN, 2005a), and delivering efficiency in local services (ODPM, 2004; 2005b). However, these guidance notes are still incomplete leaving many issues open, particularly, in relation to how the efficiency gains are calculated (Leicestershire County Council, 2005). As a matter of fact, through the Efficiency Measurement Taskforce, ODPM

(2005a) is still in the midst of developing the methodology for identifying gains in respect of revenue and capital spend. Further guidance is promised to be published in due course and supplementary information is posted on the Electronic Service Delivery Toolkit (esd-toolkit, 2006) in the form of FAQs. The esd-toolkit is an on-line resource that is owned and managed by the local government with support from I&DeA (2005), which enables local authorities to measure, report, and record their progress in delivering processes electronically. This toolkit has the potential to play a much bigger role in the government's efficiency agenda particularly on process improvement (I&DeA, 2005) through re-engineering and optimisation of business process maps (ODPM, 2005b).

Following the discussion above, we would like to highlight several timely and hard pressed issues concerning the evaluation of eGovernment systems. Firstly, in order to ensure the success of such systems, there is an urgent need for a continuous, rigorous, and reflective form of evaluation. System evaluation is often addressed as part of the System Development Life Cycle (SDLC) but very rarely viewed as a post-implementation activity. In this proposed research, we are adopting the suggestion put forth by Irani and Love (2001) and are re-thinking the evaluation process for post-implemented eGovernment systems, making it a life cycle process, known as the Systems Evaluation Life Cycle (SEL). This will provide decision makers (e.g. politicians, project managers, system developers, etc...) the golden opportunity for reflective learning rather than a process that stigmatises failure (Irani and Love, 2001).

Secondly, quantitative measures derived from ETN guidance notes (ODPM, 2005a) are predominantly utilised for the calculation of efficiency gains in the implementation of eGovernment systems. Such measures are known as 'hard' evaluation, which typically assesses tangible benefits based on accounting or financial instruments such as Return on Investment, Net Present Value, and Cost Benefit Analysis, etc. (Farbey et al, 1995). This type of evaluation is not easy viewing the fact that UK local agencies have to refer to the ETN guidance notes (ODPM, 2005a) and supplementary notes in the esd-toolkit to help them compute such cashable efficiency gains. Currently, many existing individual IS evaluation techniques and tools available for eGovernment systems tends to have either a 'hard' (e.g. evaluation study conducted by the Australian Government Information Management Office, AGIMO 2004a, 2004b, 2004c) or 'soft' (includes organisational, social, political, or cultural factors) orientation. In order to determine the actual benefits or success of an eGovernment system, it is highly essential to have a holistic evaluation of the system in its operational setting which takes into consideration the impact of these contextual factors. However, most evaluation processes are rendered inefficient or ineffective due to the many difficulties encountered in measuring the tangible as well as intangible benefits and costs of IS (Irani and Love, 2001).

In order to address the evaluation related issues raised above, we propose to first conduct a preliminary needs analysis based on the existing government's efficiency guidance notes, esd-toolkit (2006), local agencies and multi-users (includes politicians, staff, public, project managers, design developers, other government agencies, etc...) evaluation needs. Also, we shall conduct reverse engineering process by identifying the components in a typical government system, establish the relationships amongst them followed by creating representations of the system in a higher level of abstraction. Based on the outcome of this analysis phase, we will develop an eGovernment system evaluation needs profile which will form one of the bases of our proposed web portal (with the acronym CARRSE) which will be compliant to the Web Accessibility Initiative W3C (<http://www.w3.org/WAI/>). Just like any other typical web portals, it will facilitate easy access. Till date, web portals that support the evaluation of eGovernment systems are very scarce, and additionally, the form of support they facilitate is very limited. For example, the previously mentioned esd-toolkit (2006) merely, provides a means for online submission of Annual Efficiency Statements, repositories (e.g. standards), downloads of documents. As mentioned earlier, AGIMO (2004a, 2004b, 2004c) has developed 'hard' evaluation methodology and strategies (e.g. analysis of demand, benefits, and return on investment) which is only available through CDROMs. Conversely, our proposed CARRSE portal aims to provide easily accessible support to UK local agencies for the continuous, rigorous, reflective, and holistic (includes both the 'hard' and 'soft' aspects) evaluation of *pre-implemented*, *implementing*, and *post-implemented* eGovernment systems. Its novelty lies in its sole dedication to the provision of a one-stop shop facility for information, services, interactive tools and methodology (includes methods, procedures, and techniques) to support the evaluation of eGovernment systems, and at the same time, are adaptable to its multi-users' evaluation needs. The details of the CARRSE will be discussed in the Detailed Methodology subsection of this proposal.

Viewing the fact that the evaluation of IS (including eGovernment systems) is a *knowledge intensive task* (Irani, et al, 2005b), the network for eGovernment Integration and Systems Evaluation (eGISE) has identified Knowledge Management (KM) as a particular interest within this area. KM which is one of the proposed bases of our CARRSE portal, relates to knowledge capture, creation, sharing, application, and dissemination. Some of the typical methods for sharing eGovernment related knowledge are through: collaborative projects (e.g. Local eGovernment Portal at <http://www.localegov.gov.uk> and Government Connect at <http://www.govconnect.gov.uk/ccm/portal/>); FAQs (e.g. esd-toolkit, 2006; Local eGovernment at <http://www.localegovnp.org/default.asp?sID=1106853641943> and Planning Portal at <http://www.planningportal.gov.uk/england/government/en/1030953172298.html>); repositories or libraries of tools and documents (e.g. IDABC in <http://europa.eu.int/idabc/en/chapter/140>; a Product Catalogue created by the local eGovernment National Projects Programme at <http://catalogue.localegovnp.org.uk/pp/publication/results.asp?InitialLetter=A>; and Planning Portal in <http://www.planningportal.gov.uk/england/government/en/1018433960408.html>); best practice or successful case studies (e.g. Planning Portal at

<http://www.planningportal.gov.uk/england/government/en/1115313953280.html>; AGIMO at [http://www.agimo.gov.au/practice/km\\_case\\_studies](http://www.agimo.gov.au/practice/km_case_studies)); and finally, forums for sustainable communities with a common vision and goals (e.g. esd-toolkit, 2006). We propose to exploit some of these KM techniques to help support and improve activities within the evaluation life cycle. Also, the innovative utility of ontology and semantic web technology to represent and process information (e.g. documents, objects in repositories, etc...) in CARRSE portal will facilitate semantic queries which will result in a more meaningful search for relevant information. Additionally, the Knowledge Management System (KMS) in CARRSE portal will contain an intelligent knowledge base (database and inference rules which support some form of reasoning mechanism) for eGovernment evaluation best practice. It will be different from typical repositories which are mere centralised storages or databases, and also, it will be developed in accordance to the renown Europe's Information Society (EIS, 2005) eGovernment Good Practice Framework. The KMS will include negative experiences, and pitfalls (a suggestion put forth by the EC, 2005), which till date, is an unprecedented feature in a community web portal. Furthermore, the development and implementation of the proposed feedback mechanism in CARRSE portal will be based on lessons learnt from developing COLA, a Cross Organisational Learning Approach (product of a previous EPSRC funded project, B-Hive – Building a High Value Construction Environment with grant no: EPSRC GR/L02654/01(P)). Further details of COLA are available in these papers (Orange et al, 1998, 1999a, 1999b, 2000; Page et al, 2000), or at the URL address <http://is.lse.ac.uk/b-hive>. This approach aims to engage the organisation in rigorous and continuous evaluative reflective practice which will result in both single and double loop organisational learning.

In summary, the development and implementation of our proposed web portal, CARRSE, will give rise to the challenge of interweaving very diverse areas of research namely: Knowledge Base; Knowledge Integration (involving the use of multiple ontologies, multiple databases, Semantic Web); Reverse Engineering; Information Systems (IS) which includes Soft Systems Methodology (SSM), and Hard Systems Methodology (HSM); Information and Knowledge Management (IKM); and finally, Organisational Learning (OL). To reiterate, the novel outcome of our proposed research project will be an implemented and tested ontology-based one-stop shop facility which supports UK local agencies in their holistic evaluation of eGovernment systems. It will exploit the utility of KM techniques and strategies to support evaluation related activities, as well as ontology and semantic web for the representation and processing of information. Additionally, intelligent knowledge bases will be employed for the storage and reasoning about relevant information, and lastly, a feedback mechanism which facilitates rigorous single and double organisational learning through reflective practice. In this proposed research project, we will also implement a novel collaborative inquiry methodology where the project stakeholders (users, system developers, etc...) will assume a participatory action research role by being our co-evaluation partners.

## 2. PROGRAMME AND METHODOLOGY

### 2.1: Aim

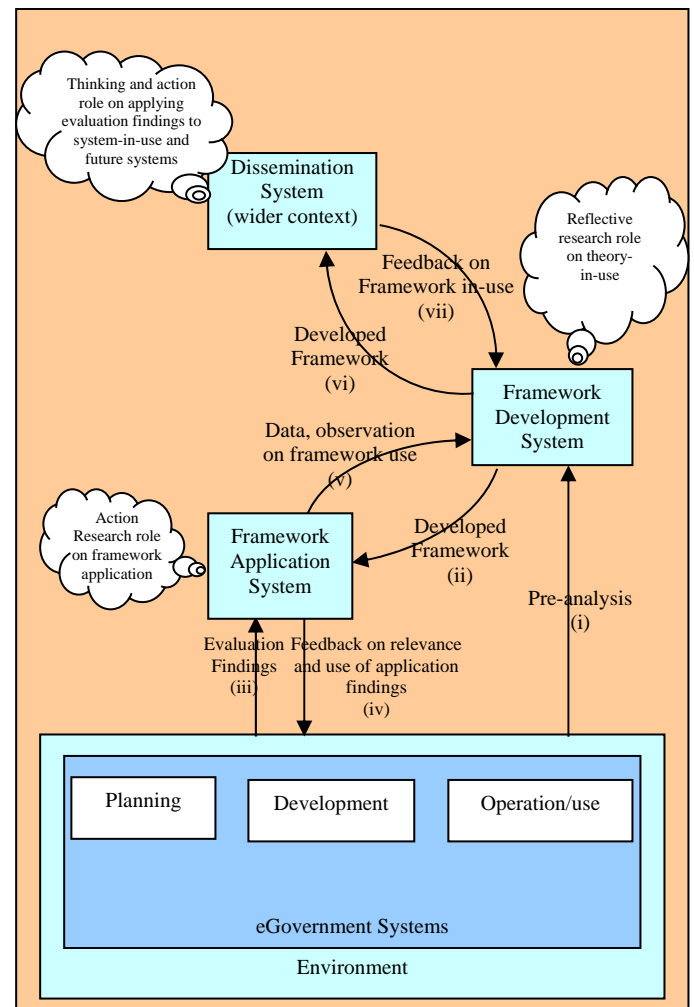
The aim of this proposed research is to create multi-users and eGovernment system evaluation needs profiles followed by the development, implementation, testing, and dissemination of a web portal (CARRSE) which fully supports a continuous, adaptable (to multi-users' needs and perspectives), rigorous, reflective, sustainable (by means of an online community), and holistic (both 'hard' and 'soft') form of eGovernment systems evaluation. Ontology and semantic web will be employed to represent and process information, services, interactive tools and methodology provided in the CARRSE portal. The KMS component in the portal will provide an intelligent knowledge base for best practice, negative experiences and pitfalls relating to the evaluation of eGovernment systems. Lastly, the CARRSE portal will provide a feedback mechanism which will facilitate organisational learning through reflective practice.

### 2.2: Objectives

The objectives of this proposed research project are to:

1. Develop and implement triangulated research and evaluation methodologies (Case Study, Ethnography, Grounded Theory, Social Paradigms, Action Research, SSM, HSM), and a battery of problem structuring techniques (conversation, causal, and UML) for the data collection and analysis processes entailed in this project.
2. Produce a comprehensive resource of paradigms (e.g. paradigms derived from the Maturity Models), matrices of evaluation criteria (e.g. Checkland's 3Es Efficiency, Efficacy, Effectiveness (1990)), relevant to the evaluation framework so as to support evaluative activities and techniques (e.g. 'hard' ones which address financial and technical issues while 'soft' ones address social, political, cultural, and organisational issues) which could be standardised across projects and social contexts.
3. Provide an audit trail of evaluative thinking and implement an evaluative reflective inquiry cycle which basically promotes organisational single and double loop learning. This evaluative cycle will be conducted at different stages and levels by different groups of people, to be planned, tracked, and positioned under the umbrella of the framework.
4. Incorporate the Knowledge Management Life Cycle which involves knowledge capture, creation, sharing, application, and dissemination in the evaluation framework. The socially constructed knowledge would be generalised and transferred to other contexts or utilised and developed in the social setting it is relevant to. Lastly, for the final dissemination stage, we shall develop documentations which include guidelines, procedures, and issues for the use of the framework.

### 2.3: Detailed Methodology



Note: The roman numerals indicate the order of events

Figure 1: Detailed Methodology for the proposed Systems Evaluation Life Cycle (SELC)

### Introduction

To reiterate, the primary objective of this proposed research is to develop, apply, test, and disseminate an evaluation framework (Systems Evaluation Life Cycle, SELC) for eGovernment systems (depicted in Figure 1). The theoretical bases for the framework will be the Soft Systems Methodology, SSM (Checkland and Scholes, 1990) which provides the platform for the analyses of the 'soft' aspects (e.g. human, political, cultural or organisational factors) and the Hard System Methodology (HSM) which provides methods and tools for quantitative measures and analyses of the system. The remaining three interrelated bases are: Reflective Practice, Organisational Learning (OL), and Information and Knowledge Management (IKM). Some of the key underlying principles to a successful SELC are good data collection and analyses methods (discussed in the next section), an evaluative reflective practice cycle (called Reflective Evaluative Methodology, REM) which entails the complete process of identification and analysis of problems (and strengths), followed by reiterated testing, implementation, and revision of solutions. Such a cycle produces organisational learning, as well as continuous improvement to both the framework and system. Additionally, it aims to cultivate an organisational culture that supports

reflection, continuous learning, information and knowledge management life cycle which facilitates knowledge creation, capture, sharing, application and dissemination.

### Research Methodology

The nature of knowledge, and how we manage it, has occupied philosophers for thousands of years. It is a complex human activity which cannot be reduced to formulaic and quantifiable processes. Thus, any research strategy must adopt a qualitative, interpretivist stance if it is to yield deep insight into the essential human activity of an eGovernment system. In this proposed research, we shall adopt the interpretivist approach in the evaluation of eGovernment systems because it focuses on an intensive study of real world instances of eGovernment phenomena with the aim of producing understanding of the *context of the eGovernment system* (e.g. politics, human, organization), and the processes whereby the eGovernment system influences the context and vice versa (Walsham, 1993).

### Research Design

The research design for this project will consist of several triangulated qualitative research methods (based on the interpretivist approach) so as to overcome the weaknesses or intrinsic biases inherent in one method, and also to obtain confirmation of findings through the convergence of multiple methods. The proposed research methods are: case study (external observer), ethnographic research (as a participant observer), action research (as a participant activist), and the Grounded Theory (Strauss and Corbin, 1990). The external observer role is the most common approach where the researcher stands outside the phenomenon and attempts to understand it without participating in what is happening. However, in the ethnographic research method, the researcher is a participant within the research process (see example in Elliman and Hayman, 1999). He has access to the underlying emotional climate, the succinct organisational culture, and the informal social interactions that occur within the organisation. Usually, the participant observer assumes a non-influential role so that they observe the activity at first hand but do not modify the social structure and hence, create a different phenomenon. However, in an action research, the position of neutrality is abandoned. Rather than just trying to study a human activity, the researcher seeks to change it for the better. This method is the hardest to apply effectively viewing the fact that the researcher is both a judge and jury who must intervene aptly with the intent to benefit the organisation while at the same time remain sufficiently objective to collect evidence and reflect on the outcome of the intervention. This type of research is sometimes called emancipatory because it empowers the people within the target group to change their behaviour and systems. Since change is a critical factor in the eGovernment agenda but does not appear to be happening, it is thus intended that the proposed research will adopt an action research strategy. However, in order to maximise change, we will incorporate a novel collaborative inquiry methodology into the action research cycle, where the project stakeholders will be our co-evaluation partners, and hence play a relatively more active participatory action research role. Lastly, the Grounded Theory research approach will be utilised to inductively develop a set of theories (relating to the

eGovernment system) that are grounded in data that will be systematically gathered and analysed.

### Data Collection and Analysis

We intend to have two phases of data collection and analysis. The first will be called pre-analysis methods which will be used to conduct needs and requirement analyses prior to the development of our proposed evaluation framework (look at information or knowledge flow (i) in Figure 1). Unstructured data concerning issues (e.g. organisational, social, political, cultural, or technological) and problems relating to the implemented eGovernment system will be collected through questionnaire, interviews, external and participant observations, text, documents, and archives analysis. Once again, we use data triangulation to enhance the reliability, validity, and quality of data collected. The data collection method for the second phase will be the same as the first phase. In this phase data is collected when we apply the developed framework to evaluate the implemented eGovernment system (look at information or knowledge flow (iii), (iv), and (v) in Figure 1). Data collected will relate to 'hard' and 'soft' issues of the eGovernment system and at the same time provide feedback on the framework use (e.g. problems, emerging issues, etc...).

Qualitative data collected will be coded using open, axial, and selective coding methods. Some of the data analysis will be based on the Grounded Theory where general features of data will be abstracted inductively to form theories which consist of process-oriented descriptions (concepts, classes, propositions or relationships) and explanation for the emerged phenomena in the evaluation of eGovernment systems. Data relating to 'soft' aspects of the system will be analysed utilising social research paradigms (e.g. structural functionalism, symbolic interactionism, and interpretivism) Also, we propose to apply content, hermeneutics, and semiotics analysis approaches with focus on narratives and metaphors, for the purpose of studying shared language used in the communication between individuals or groups within the organisation. As for data relating to the 'hard' aspects of the system, we intend to conduct quantitative and statistical methods (e.g. Cost Effectiveness Analysis, Return of Investment, etc...) to assess the performance, efficiency, and effectiveness of the system. This will be followed by applying problem structuring techniques to the system (e.g. functional analysis, UML, Conversation, Causal mapping, etc...) to provide an overview visual depiction of the whole system.

### 2.4: PROGRAMME OF WORK

The programme of work is divided into seven work packages. Each workpackage shall provide the relevant methodology and technique. A Gantt chart for project scheduling is shown in Part 3 of this proposal.

#### WP1: Define Project Scope and Detailed Objectives (Duration: 4 months)

A major function of this phase is to scope the project effectively so that the project is manageable and the objectives achievable within the 2 year timescale. Clearly the whole of the eGovernment process cannot be addressed. Therefore it is important to identify, prioritise and select potential eGovernment projects such that the scope is enough so that

any results are meaningful yet the scope should not be so wide that only superficial analysis can be achieved.

The project objectives will be further refined and routes to meeting those objectives identified and built into the project plan.

A major task in this work package is to identify and allocate resources, and roles and responsibilities from amongst partner organisations.

This will not be seen as a one off static process. Objectives and resources will be reviewed and amended as appropriate throughout the lifecycle of the research.

#### **WP2: Identify Academic and Theoretical Perspectives (Duration: 6 months)**

Primarily an academic exercise in that much of the required academic basis and context will be established which will reinforce the rationale for the project. A variety of sources will be accessed such as: university libraries (on-line and hard copy journals, conference proceedings etc), British Lending Library, CDROMs, internet etc. A critical appraisal of appropriate literature providing academic underpinning together with an evaluation of other related research projects will be undertaken to inform the design of this research.

The theoretical context will be reinforced through a series of interviews and brainstorming workshops with government institution, industry and academic partners. Some institutional visits will take place. Within this phase the project team will define cultural and organisational objectives in addition to those required to support eGovernment Systems Evaluation.

This will not be seen as a one off static process. Literature and other associated research will be reviewed and amended as appropriate throughout the lifecycle of the project.

#### **WP3: Develop Evaluation Framework (Duration: 6 months)**

This phase incorporates two major activities adopting both 'hard' and 'soft' techniques to model process and data requirements to identify the elements required for building an evaluation framework. Much of the work will be guided by the literature review from WP2. This project will exploit and adapt models that exist from other research projects in addition to those established based on theoretical perspectives, to build an eGovernment evaluation framework.

A parallel activity will establish a set of evaluation criteria to map against the framework. These will be established using pre-analysis techniques (e.g. conversation, cognitive, and causal) to examine the relevant social interaction in the context of eGovernment systems to identify 'soft', qualitative measures in addition to 'hard' quantifiable criteria (e.g. ROI etc.).

This is not a one off exercise. This is the investigatory, creative phase but the process is iterative and the evaluation framework will evolve throughout the duration of the project.

#### **WP4: Apply Evaluation Framework (Duration: 8 months)**

Led by xxx but contribution made by other appropriate partners.

Here the evaluation framework is applied to an eGovernment application(s). The first stage necessitates selecting an appropriate set of paradigms and techniques that are available to the research team. The choice will differ for

each eGovernment project depending on the nature of the project, nature and number of stakeholders involved, project size and scope, complexity etc.

Collection of 'hard' and 'soft' data will take place. Quantitative data, concerned with costings, timings etc. and qualitative data will be obtained through interviews, ethnography, case study, hard copies as well as electronic documents, communication text, and archives.

Qualitative analysis will utilise social research paradigms. Several mapping techniques will be employed (e.g. conversation, cognitive, and causal) to examine the relevant social interaction in the context of the eGovernment system. We also propose to apply content, hermeneutics, and semiotics analysis approaches with focus on narratives and metaphors, for the purpose of studying shared language used in the communication between individuals or groups within the organization. Through reflective and inductive inquiry, abstract theories about people (social and culture), political, and organizational impact of the system will be formulated.

Quantitative and statistical methods (e.g. Cost Effectiveness Analysis, Return of Investment, etc...) will be applied to assess the performance, efficiency, and effectiveness of the system. UML mapping techniques (Use Case, State Charts, Class Diagrams) will be used to document the functionality of each component in the system.

However as the aim of the research is to develop the evaluative framework the above is indicative. To be prescriptive at this stage would serve to stifle the emergence of the framework as the research progresses.

This work package, along with WP5 is iterative. The results of this phase will be disseminated amongst partners to inform each iteration.

#### **WP5: Evaluate the Evaluation Framework (Duration: 8 months)**

Many of the techniques applied to the evaluation of eGovernment systems would be used to evaluate the framework. Throughout the analysis, criteria for evaluation will be enhanced and new ones will emerge. This will force iteration through WP4 and WP5 and at every iteration there will be the opportunity to improve the evaluation framework.

#### **WP6: Dissemination (Duration: 4 months)**

The outcomes of the research will be disseminated to a wide and varied audience serving both academic and professional needs. The work will be published in conference proceedings and academic journals to serve the academic community.

The professional and other non-academic communities will be served through the publication of professional journals, attendance at seminars and workshops and publication on the internet.

It is anticipated that a major output from this project is an eGovernment Evaluation Framework manual available to public sector management and a spin off organisation to provide consultancy training and support for the framework

### **3. RELEVANCE TO BENEFICIARIES**

A list of beneficiaries to this proposed research will be:

1. Local, National, European, and International Government Agencies (e.g. Leeds City Council, Conway City Council, Sheffield City Council)
2. Industrial Sector and Collaborators (Andrew Lees, Eugene Beirne, Taylor Woodrow, Cap Gemini, Emma from)
3. Academic Research Collaborators  
One of our priorities is to be part of the national as well as European and international collaborative research network for the evaluation of eGovernment systems. We intend to establish further and stronger research links with our fellow and foreign researchers. They are the current eGISE local network, Professor Ann Macintosh from the International Teledemocracy Center, Napier University, Edinburgh; etc...

#### 4. DISSEMINATION AND EXPLOITATION

We intend to disseminate findings of this proposed research to three categories of communities:

##### i. Academic Community

We shall publish our research methodology, the holistic SELC evaluation methodology which addresses both 'hard' and 'soft' issues, and evaluation results in workshops as well as major international and national conferences. Some of the renown conferences we intend to participate for the purpose of this research will be European Conference of Information Systems (ECIS), American Conference of Information Systems (AMCIS), European Conference on EGovernment (ECEG), International Conference on EGovernment (ICEG), and United Kingdom Academy for Information Systems (UKAIS).

Viewing the three interweaving areas of this research, we propose to submit papers to prominent KM journals (Journal of Knowledge Management, Journal of Information and Knowledge Management, and Knowledge Management Review), Public Sector journals with emphasis on eGovernment (Journal of EGovernment, Public Sector Management Journal, and International Journal of Public Sector Management), and IS Journals (The Journal of Strategic Information Systems, European Journal of Information Systems, and Journal of Information Systems).

##### ii. Non-Academic Community

In a recent review (DTI, 2005), the Knowledge Transfer Partnerships (KTP) emerge as one of the most successful knowledge transfer mechanisms the UK Government could offer her businesses which include the public sector as well. In this research project, we propose to form a KTP with a local council in Leeds, which will play an active participatory role in determining what will be evaluated on followed by clearly define and specify desirable outputs for their eGovernment system in particular. On the other hand, the researchers of this project could apply their wealth of research knowledge and expertise to develop, test, and validate the integrated evaluation model (SELC). The researchers and local council will also collaborate and co-operate to ensure its smooth and efficient implementation. Undeniably, in the course of the research, there will be prolific exchange of excellent ideas and best practice, research results, experiences and skills between the researchers and the local council through workshops, brainstorming sessions, focus groups, and other forms of

mediated or direct dialogues. We will also publish our research methodology and results in government periodicals such as Government Computing and Directgov.

##### iii. Students

CASE studentships aim to provide PhD research students the opportunity to conduct research on a real life business problem which inadvertently adds to his industrial experience. In our research project, we propose a research studentship which is quite similar to the CASE studentship. He will be unofficially co-supervised by a local council manager and an academic professor. Such form of co-supervision will certainly invoke an informal transfer of knowledge between the participating parties.

The main task of the Office of the Deputy Prime Minister (ODPM) is to work in partnership with other Government departments or local councils to create sustainable communities with 'high quality services' as one of its key drivers (ODPM, 2006). It will focus on continuous improvement, high quality customer-focussed local services, and favourable public opinions. In order to realize part of this vision, together with the ODPM, we shall co-sponsor and organize a workshop which will be devoted to the theme of the project. This workshop which is especially targeted at researchers, developers, practitioners (research users), and service users (public) will include brainstorming sessions and focus groups. The feedback received from such an open form of workshop will further help refine and enhance the SELC evaluation framework. As mentioned previously, reusability is one of the top priorities of the SELC evaluation model. It is intended for other local councils to easily adopt and adapt it for the independent evaluation of their own eGovernment systems. In order to facilitate such wider dissemination, essential documents including a manual on best practice, evaluation criteria matrices, guidelines as well as issues for its implementation, will be published and circulated to major local government authorities in the country. They will also be made available and downloadable as open source materials through the World Wide Web.

##### 5. References

- AGIMO. (2004a). Australian Government Information Management Office: E-government Benefits Study., Retrieval date: [12<sup>th</sup> May, 2006], URL address: [[http://www.agimo.gov.au/government/benefits\\_study](http://www.agimo.gov.au/government/benefits_study)].
- AGIMO. (2004b). Australian Government Information Management Office: Improving Value for Money – The ICT Investment Framework, Retrieval date: [12<sup>th</sup> May, 2006], URL address: [[http://www.agimo.gov.au/government/the\\_ict\\_investment\\_framework](http://www.agimo.gov.au/government/the_ict_investment_framework)].
- AGIMO. (2004c). Australian Government Information Management Office: Demand and Value Assessment, Retrieval date: [12<sup>th</sup> May, 2006], URL address: [<http://www.agimo.gov.au/government/damvam>].
- Avison, D., and Fitzgerald. (2003). Information Systems Development: Methodologies, Techniques, and Tools. London: McGraw-Hill Publishing Company.
- Bennett, S., McRobb, S., and Farmer, R. (2002). Object-Oriented Systems Analysis and Design Using UML. London: McGraw-Hill.
- Blair, T. (2000). Foreword: EGovernment – Electronic Government Services for the 21<sup>st</sup> Century. Retrieval date: [21<sup>st</sup> February, 2006], URL address: [<http://www.strategy.gov.uk/downloads/su/delivery/indexFrame.htm>].

- Blumer, Herbert.(1969). Symbolic Interactionism: Perspective and Method. Englewood Cliffs, NJ: Prentice-Hall.
- Checkland, P., and Scholes, J. (2001). A 30-year Retrospective. Chichester: John Wiley.
- Checkland, P., and Scholes, J. (1990). Soft Systems Methodology in Action. Chichester: John Wiley.
- Committee of Public Accounts, CPA. (2002). Improving Public Services Through eGovernment. House of Commons (HC) Report No: 54, Retrieval Date: [01<sup>st</sup> April, 2006], URL address: [http://www.publications.parliament.uk/pa/cm200102/cmselect/cmpubacc/845/84503.htm].
- Curtis, G., and Cobham, D. (2005). Business Information Systems :Analysis, Design and Practice. Harlow: Financial Times Prentice Hall.
- DTI. (2005). Knowledge Transfer Partnerships: Awards 2004. Retrieval date: [13<sup>th</sup> February, 2006], URL address: [http://www.ktponline.org.uk/shared/awards\_post.pdf].
- EC. (2005). European Commission Information Society and Media Directorate General: Signposts towards eGovernment 2010, Retrieval date: [12<sup>th</sup> May, 2006], URL address: [http://europa.eu.int/information\_society/activities/egovernment\_research/doc/minconf2005/signposts2005.pdf].
- Elliman, T., and Hayman, A. (1999). A Comment on Kidd's Characterisation of Knowledge Workers. Cognition, Technology and Worker, Vol. 1(3), pp.162-168.
- esd-toolkit. (2006). Electronic Service Delivery Toolkit. Retrieval Date: [01<sup>st</sup> , April, 2006], URL Address: [http://www.esd.org.uk/esdtoolkit/].
- Europe's Information Society, EIS. (2005). Project of the Month July 2005: Good Practice Framework for eGovernment, Retrieval Date: [12<sup>th</sup> ,May, 2006], URL address: [http://europa.eu.int/information\_society/activities/egovernment\_research/projects/projects\_of\_month/200507/index\_en.htm].
- Farbey, B., Land, F., Targett, D. (1995). A Taxonomy of Information Systems Application: The Benefits Evaluation Ladder, European Journal of Information Systems, Vo. 4, pp.41-50.
- Foley, P. (2005). The Real Benefits, Beneficiaries and Value of EGovernment, Public Money and Management, January.
- I&DeA. (2005). Efficiency Matters: The Annual Efficiency Statement and the Bigger Picture. Retrieval Date: [01<sup>st</sup>, April, 2006], URL Address: [http://www.idea-knowledge.gov.uk/idk/aio/664218].
- I&DeA. (2006). Annual Efficiency Statement. Retrieval Date: [01<sup>st</sup> , April, 2006], URL Address: [http://www.idea-knowledge.gov.uk/idk/core/page.do?pageId=973218].
- Gershon, P. (2004). Gershon Report: Releasing Resources to the Front Line – Independent Review of Public Sector Efficiency. Retrieval Date: [01<sup>st</sup>, April, 2006], URL Address: [http://www.hm-treasury.gov.uk/media/B2C/11/efficiency\_review120704.pdf].
- Irani, Z., and Love, P. E. D. (2001). Editorial - Information Systems Evaluation: Past, Present and Future. European Journal of Information Systems, Vol. 10, pp.183-188.
- Irani, Z., Love, P. E. D., Elliman, T., Jones, S., and Themistocleous, M. (2005a). Evaluating EGovernment: Learning from the Experience of Two UK Local Authorities, Information Systems Journal, Vol. 15, Blackwell Publishing Ltd., pp.61-82.
- Irani, Z., Sharif, A. M., and Love, P. E. D. (2005b). Linking Knowledge Transformation to Information Systems Evaluation. European Journal of Information System, Vol. 14, pp.213-228.
- Kendall, K. E., and Kendal, J. E. (2005). Systems Analysis and Design. Upper Saddle River, N.J.: Prentice Hall.
- Leicestershire County Council. (2005). General Introduction to the Annual Efficiency Statement. Retrieval Date: [01<sup>st</sup>, April, 2006]. URL Address: [http://www.leics.gov.uk/index/your\_council/improving\_services/general\_introduction\_to\_the\_annual\_efficiency\_statement.htm].
- Maciaszek, L. A. (2001). Requirements Analysis and System Design: Developing Information Systems with UML. Addison Wesley.
- ODPM. (2004). Delivering Efficiency in Local Services: Information for Leaders and Chief Executives. Retrieval Date: [01<sup>st</sup> , April, 2006], URL Address: [http://www.idea-knowledge.gov.uk/idk/aio/420798].
- ODPM. (2005a). Efficiency Technical Note (ETN) for Local Government. Retrieval Date: [01<sup>st</sup> , April, 2006], URL Address: [http://www.odpm.gov.uk/pub/532/EfficiencytechnicalnoteforlocalgovernmentPDF336kb\_id1135532.pdf].
- ODPM. (2005b). Delivering Efficiency in Local Services: Further Guidance for Local Authorities. Retrieval Date: [01<sup>st</sup>, April, 2006], URL Address: [http://www.odpm.gov.uk/pub/531/DeliveringefficiencyinlocalservicesfurtherguidancePDF1129kb\_id1135531.pdf]
- ODPM (2006a). About ODPM – Overview. Retrieval date: [13<sup>th</sup> February, 2006], URL address: [http://www.odpm.gov.uk/index.asp?docid=1122597].
- ODPM. (2006b). ODPM Evidence and Innovation Strategy 2005-08: Consultation Paper. Retrieval date: [01<sup>st</sup>, April, 2006], URL Address: [http://www.odpm.gov.uk/pub/401/ODPMEvidenceInnovationStrategy200508Consultationpaper\_id1164401.pdf].
- ODPM. (2006c). About the Local Government Efficiency Agenda. Retrieval Date: [01<sup>st</sup> April, 2006], URL Address: [http://www.odpm.gov.uk/index.asp?id=1163865].
- OGC. (2005a). Flexible Working in Central Government: Leveraging the Benefits. Retrieval Date: [01<sup>st</sup>, April, 2006], URL Address: [http://www.ogc.gov.uk/embedded\_object.asp?docid=1003714].
- OGC. (2005b). Productive Time: Efficiency Programme – Measurement Guidance. Retrieval Date: [01<sup>st</sup>, April, 2006], URL Address: [http://www.hm-treasury.gov.uk/media/FE9/DC/productive\_time010405.pdf].
- Orange, G., Boam, J., and Burke, A. (1998). A Networked System to Facilitate Organisational Learning within the Construction Industry, NETTIES '98, Leeds Metropolitan University
- Silcock, R. (2001). What is eGovernment? Parliamentary Affairs, Vol.54, pp.88-101.
- HM Treasury. (2004). Spending Review 2004: Meeting Regional Priorities: Response to the Regional Emphasis Documents. Retrieval Date: [01<sup>st</sup>, April, 2006], URL Address: [http://www.hm-treasury.gov.uk/media/2AO/31/sr04\_regpriorities\_220704.pdf].
- Strauss, A., and Corbin, J. (1990). Basics of Qualitative Research: Grounded Theory Procedures and Techniques. London: Sage.
- Walsham, G. (1993). Interpreting Information Systems in Organizations, Chichester:Wiley.
- Yin, R. K. (1994). Case Study Research: Design and Methods, Newbury Park, Ca: Sage Publications.