Good Practice in e-Government: Management over Methods?

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Abstract. In considering good practice in relation to e-Government, this paper contributes to critical discussion on the value placed on methodologies in implementing e-Government programmes. Assessments are made regarding institutional, technological and organisational factors within the public sector, and the manner in which methodologies have been and are currently being applied. An exploration is made of emergent e-Government driven methodologies, and in drawing on the work of Wastell, Newman and Kawalek (2002) perceptions of e-Government good practice are illustrated by implementing agencies.

1 Introduction

Electronic Service Delivery (ESD or e-Government) is continuing in its role of enabling reform the public sector in the U.K. Information Systems (IS) are rarely introduced on such an ambitious scale of the current programme. As such, what use has been made, and value taken, of applying Good Practice in terms of modeling or methodology techniques in delivering such a diverse set of change and technology? Structured paths leading to the introduction of technology and change have existed in distinct forms for some time, and have been applied with mixed results across a range of projects in both public and private sectors. There are two perspectives that may allow for an examination of e-Government in terms of these paths:

- Considering the existing framework of models and methodologies at the disposal of bodies responsible for implementing e-Government;

- Assessing e-Government programmes and the value of relevant techniques.

These are considered through an e-Government case study. It provides an overview of the progress of an organisation in implementing e-Government, in contrast to discussion of e-Government in broader policy terms.

2 Government Motivation

A formalised definition of e-Government is presented by Becker et al (2004) in that electronic government entails the simplification and implementation of information, communication and transaction processes, in order to achieve, by means of information and communication technology, an administrative service, within and

between authorities and, likewise, between authorities and private individuals or companies. All public bodies are involved with implementing e-Government, using models for this purpose known as Pathfinder projects. Pathfinders are intended to provide best practice, but apply to complex or significantly different areas, acting:

- As a focus for learning to enable all councils to meet the 2005 ESD target;

- To enable those councils at the leading edge to further develop products and disseminate their learning and good practice more widely;

- To develop products for national roll out, whether by local councils themselves or with private sector partners.

Responsibility for e-Government delivery lies with the Office of the Deputy Prime Minister (ODPM). Organisations are required to notify the ODPM of progress through formal reports, Implementing Electronic Government (IEG) statements. Figure 1 illustrates notified progress up to January 2004 of progress based on these reports.
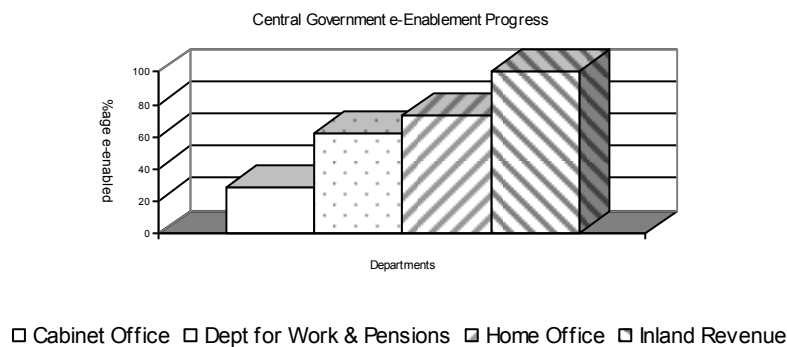
Central Government e-Enablement Progress

□ Cabinet Office □ Dept for Work & Pensions □ Home Office □ Inland Revenue

Fig. 1. Central Government e-Enablement Progress.

4   An Established e-Government Context

The U.K. is not alone in being subject to the shifting nature of public services. The landscape of e-Government has seen the public sector across the continents at differing stages of implementing joined-up services. Has good practice been included in their scope? Can they be described as successes? Is it realistic to assess and contrast the projects and the techniques used to implement the e-Government concept with those applied in the U.K.? In 1959, the Association for Computing Machinery (ACM) was contemplating the progress of automated data processing across the U.S. Federal

Government. The third and final paper noted that 'progress in developing and installing electronic systems varied considerably between installations'. A number of the issues that were identified in the paper reflected obstacles still occurring in IT projects today, including underestimating risk, time and the planning required.

The phases of progress in the US in terms of e-Government have been observed by Holden, Norris and Fletcher (2002) as being 1) catalogue, 2) transaction, 3) vertical integration and 4) horizontal integration. In order to provide an increasingly mature level of service, each phase has to be passed through in order to progress. They note the dearth of information and contemporary literature on e-government, including surveys and case studies. Their research did show that larger urban or industrial centers were more likely to adopt new technology. In addition, according to the local government respondents, the five greatest barriers to the adoption of e-government, in order of frequency of response, were: lack of technology or web staff; lack of financial resources; lack of technology or web expertise; issues regarding security; and the need to upgrade existing information technology.

5   Best Practice - Through Modeling and Methodologies?

Best practice, according to the Department for Trade and Industry, equates to showing how organisations have become more efficient and competitive. The scale of an undertaking may determine the relevance of applying some or all of these techniques in practice, but a pragmatic blend of these is often required in many instances. Looking at the implementation of e-Government, the majority of techniques are applicable given the scale of the undertaking. Models and methodologies provide a route to promoting consistency and best practice, and it is appropriate to note the relationship between successful projects and the valid application of such tools and techniques.

Approaches to the implementation of IST within organisations over the past forty years have been shaped by the emergence of 'hard' and 'soft' schools of systems thinking. The decisions taken in pursuit of objectives, definition of functional groups such as production, financial and marketing systems and the clear categorisation have lead to engineering of the subsystems to optimise each. Established methodologies apply a logical series of steps to analyse and redesign or rearrange the features of the subsystem, for example Boehm's description of (and later Sommerville (2000)) waterfall (and later spiral) approaches. Examples of commercial methods include Structured Systems Analysis and Design Method (SSADM), advocating a documented process to investigate, assess and reengineer an identified system or process. PRINCE 2 enables formalised control and oversight of an agreed project. The boundaries of procedural methods have been contrasted to a more holistic and integrated approach advocated by Checkland (1990). Factors noted by Bailey (1993) that would fall under such a more inclusive approach to introducing technologically linked change might include:

- Strategic planning;

- Existing procedures and systems;

- Cultural makeup;

- Accepted means of introducing new technologies.

With an increasing level of complexity in organisational life, Checkland (1999) continued to investigate the focus of broadening the inquiry into management where harder systems engineering techniques discovered limits and boundaries to their applicability. One drawback with a waterfall type approach is illustrated through the very objectives of a project utilising such a method – 'short circuiting' the steps in search of a reengineered system. This was illustrated by the action research project presented by Pardo and Scholl (2002), where short circuits to failure in a large project were identified and addressed in a live project, the New York State Central Accounting System Redesign Project. Management pressures came into play and the project risked failure through subsequently trying to take the identified 'short cuts' to project delivery.

The adoption of a suitable methodology in support of delivering the e-Government agenda therefore has to take into account the type of factors presented above through introducing a combination of change and technology at a varying number of levels both internally and externally. It may also follow that the methodology selected by an organisation may reflect the attitude and nature of the organisation to both its members and the communities it does business with, collaborates with and serves.

5.1 Modeling and Methodologies Toward e-Government

The statutory activities and responsibilities of public sector organisations are consistent across the UK. The public sector has a mixed record of using best practice when introducing IST. As mentioned previously, use of the Pathfinder projects has been made to provide consistent 'blueprints' for organisations undertaking projects which inherently address the same core requirements. These blueprints support all the activities involved in the development, deployment and continued operation of an IST project, which are all candidates for management through a relevant technique. The Government may have recognised a shortcoming of best practice. The combination of factors that sets e-Government apart (including change, new technologies, process reengineering and so on), may not be perceived as particularly onerous within a single project. However, the circumstances and scale multiply the complexity and brings into question the applicability and support offered by existing methods and tools.

One of the Pathfinder projects, intended to address new or complex areas of the e-Government agenda was the Salford Process Reengineering method Involving New Technology (SPRINT). The new methodology was designed to introduce programmes

involving the level of complexity and risk presented by the implementation of e-Government. Few Local Authorities have publicly adopted SPRINT for their e-Government programmes. Current empirical evidence and fieldwork has suggested that the use of existing methods, particularly project management, are being employed to control the implementation of e-Government.

In addition, the Improvement and Development Agency (IDeA) has been in operation in support of local government to assist in the dissemination of best practice. This brief includes e-Government, where the central focus is on outcomes of saving time and money combined with achieving improvements. There is a clear if potted genealogy for the techniques used to specifically deliver e-Government in the U.K. and elsewhere. The application (or otherwise) of appropriate techniques and a reliance on control methods has really only served to throw into sharp relief the gap between established thinking and practice compared to new situations and circumstances arising from the change in systems and practice driven by e-Government generally.

6 An e-Government Case Study

The scope of public sector agencies involved in e-Government activity is all-encompassing in the U.K. The class of agency identified was Metropolitan Borough Councils (MBC), of which there are currently 36 Councils of this type across England. They preside over predominantly urban environments, and many provide key services including housing, education and social services. Demographically, they are comparable and the nature of the urban environment provides infrastructure more conducive to e-Government take up in both the civic and business communities.

6.1 Method of Approach

The development of suitable case studies and supplementary fieldwork involves both planning and preparation to support and aid involvement from the study participants. With the closer contact that a case study provides over a period of time, the execution will be monitored on a regular basis. The amendments, issues and factors having a bearing on the level of success will be noted and taken into account. The fieldwork component of the research is intended to provide an insight into usage of IS methods, and the results of their usage in the e-Government context. The MBCs will represent this sector, due to the level of IS usage and likely levels of change. The proposed approach utilises two types of fieldwork, intended to complement each other and provide supporting evidence for the research proposal.

Firstly, a case study will be developed in some depth to investigate key factors that will have a bearing on the successful introduction of e-Government within a target organisation. This will take the form of firstly recording the anticipated approach and assessing the likelihood of success. A series of structured interviews with senior staff central to the delivery of e-Government are central to the case study, supported by

access to Council documents and material pertinent to the programme. The supporting fieldwork involves the use of surveys with similar organisations. A survey will be developed to probe related areas in order to compare the salient factors. This survey will also be followed up after a suitable period of time in order to track subsequent progress of plans and change in line with the case study.

6.2 Key Areas

For the fieldwork, the first set of materials for discussion with the participants was constructed around several core topics. These will comprise specific subject matter, with a set of specific questions or areas to be probed at this stage. The amount of time, level of access to the case study participants and other resources available required planning and management to take into account participant responsibilities.

The findings were reviewed closely and modified to prepare a suitable questionnaire for distribution to the wider response study group. In terms of introducing a major upheaval in terms of the focus and activities, the following topic headings were used to work with participants:

- Strategic direction, drivers and models for change;

- Methodologies applied to key projects and their structure;

- Anticipated outcomes and measures of success;

- Anticipated issues and management.

6.3 The Agency Profile

Council A is a traditionally mining and industrial area. The decline in these industries led to high unemployment in the 80s/90s, with 15% of its population in wards amongst the most deprived in England. The Executive was to be assessed in order to appreciate a specific delivery perspective in terms of decisions, goals and definitions of service.

The responsibilities for e-Government in Council A lay with a small executive team drawn from the Senior Management. Interviews were organised with members of the team, who were: the Head of IT Services, the Director of Finance and IT, the Deputy Director of Human Resources and the Head of Strategic Planning. The sub-headings below provide a selection of the key areas explored in the course of the case study. With many Directors approaching retirement, the contributors perceived that this is an opportunity for change in a number of areas.

6.4 Methodologies

The ethos at Council A regarding projects is 'evolution not revolution'. IS implementation is based around assessment of a pilot phase, whereby specific objectives are set and attainment of the pilot objectives moves a project into a further phase. Figure 2, Council A Phasing, illustrates the progression of pilots from exploratory phase to established implementation project.
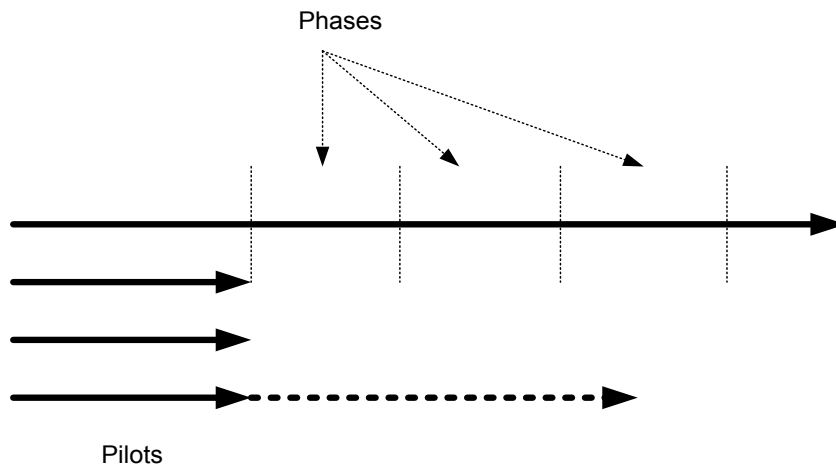

Fig.23. Council A Phasing.

The discarding of a pilot leads to a search for an alternative strategy: final business objectives are delayed not ignored. The methodology broadly reflects a 'waterfall' approach but is more of a 'house style' than a formalised and auditable means of implementing extensive IST programmes.

An example cited was the usage of electronic forms. Council A investigated the experiences of peer Authorities in this field. The piloting approach applied by Council A was used here. A single department was involved in the process for initial design to implementation. Feedback was incorporated and the system was introduced Council wide gradually. This may have been swifter but this is not the culture of the organisation. The Head of Strategic planning related the view of the Chief Executive in this respect – 'Speed is for others, getting it right is for us, irrespective of deadlines.'

6.5 IS Strategy and e-Government

Early in 2002, a new IS Strategy was issued. This centered on a replacement timetable for legacy systems based on three main drivers, being:

- Basing new systems around business processes and the ability to redesign;

- Technology linking front and back office systems enabling self service;

- Recording of transaction progress for performance assessment.

This movement of assessment to being a key component of Council systems is presented in Figure 3 below, New Auditing Paths.
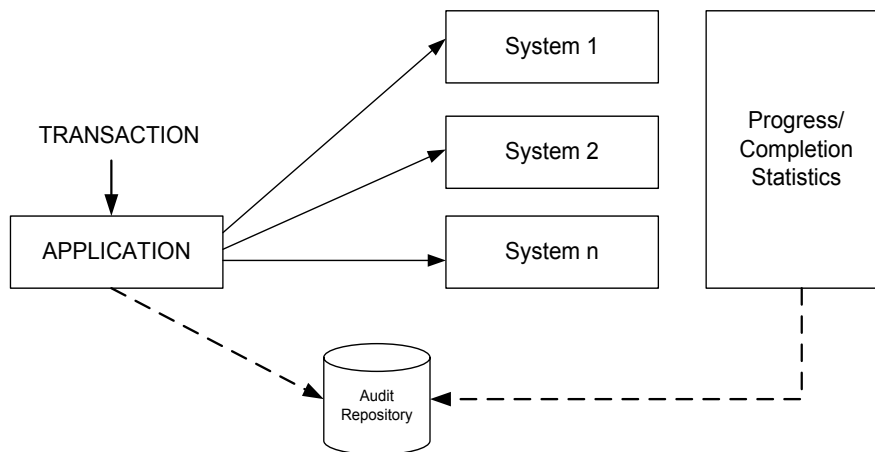

Fig.3. New Auditing Paths.

The e-Government initiative has resulted in a number of existing local bodies and new partnerships being allocated funds, without necessarily a clear remit on how these monies are to be best allocated. The experience of Council A, as a member of many of these local and/or regional groups, was the precedence of policy making over activity. The duplication of projects elsewhere was common given the lack of experience or direction in facilitating the bodies to deliver benefits.

6.6 Change

The executive committee referred to previously has responsibilities beyond e-Government. Where an initiative is deemed key to the Council achieving strategic or key objectives, resources and be suborned promptly given that the majority of changes are associated with the four Directorates represented on the committee. The approach to change within Council A in terms of inclusion and empowerment combined with technology and changing circumstances is illustrated through the ramifications of introducing a new cash receipting system across the Borough.

The project originally entailed closure of cash offices across the Borough, but the need for this was disputed by officers and members bringing political interests and pressures to bear. A review was initiated, which discovered an impact analysis had

not been made regarding the closures. Service demands were for longer hours and Saturday opening. Subsequently, services were made available from libraries and through an innovative relationship where citizens could access facilities in Co-Op stores and Post Offices. Service access was improved and with savings of over £350,000 made.

6.7 Technology Transfer

Council A are unsure of their progress in regard to their peers and the overall government timetable. Comparators are not perceived as helpful, including the Society for IT Managers (SOCITM) reports on e-Government. No formal strategy exists in terms of technology transfer: the adoption of new technologies apparently just happening. Web site usage statistics are increasing, as are telephone channel contacts.

Significantly, IS projects are progressing on an ad hoc basis with poor regard to relevant circumstances and factors. For example, popular Libraries are to have staff trained and systems installed to allow processing of benefits claims. However, the creation of a trust to operate services meant staff were to be transferred under TUPE terms and as such would not be deemed eligible under Government legislation to undertake verification activities at that time.

Council A published a revised IS Strategy early 2002. This included appraisal of a number of initiatives undertaken by other Authorities, notably Beacon Councils. In terms of e-Government, Council A determined that it was not prepared to be a testbed for new technologies. The Director of Finance and IT observed that 'we do not want to be seen as bleeding edge in terms of technology…practical gains are what we seek'. The team was undecided over the appointment of a Service Delivery Manager to oversee such delivery. The examples they had witnessed did not reflect their circumstances enough to warrant an immediate programme of radical IST led change.

6.8 Assessment

Council A illustrated that although a central agenda is in place, the potential benefits that can be drawn from such a deceptively complex initiative need to be assured through the judicious use of meaningful parameters and/or directives. This type of agenda requires commitment through adequate resourcing and monitoring on the part of central government for the directive to be successfully implemented. This includes consistency of method, technology and application, and the case study highlights a number of points, presented below.

Interpretation: Council A exhibited a flexible interpretation of scope and timelines in common with numerous public agencies. In discussing this interpretation, Wastell et al (2002) have observed the focus on service applies not only to the type and nature of e-Government implementations, but also to the essential drivers of local government including the democratic process.

Focus: The IS Strategy clearly emphasised a replacement and upgrade approach. This approach has characterised other e-Government projects, i.e. projects instigated in isolation, projects being implemented on a minimalist basis to meet imposed targets, poor justification and limited or no joint agency approach to projects. Recent tendering through government agencies has indicated that significant numbers of agencies are only just commencing procurement of systems that are core to e-Government principles.

Service Users: Council A has noted an increase in take up of Internet based services, also of more established telephone services. This has come as a surprise, but consistent with a narrow approach to design, which would usually involve anticipating outcomes of projects that cross functional and operational boundaries.

Aggregation: Council A closely assesses technologies as part of a project, which in other circumstances would be quite appropriate. The use of Pathfinder projects was designed to bring a consistency of solution and method, but their purpose of indicating best practice has not been adopted at Council A or neighbouring peer authorities. The independence of local government in funding and implementing IST systems has allowed a plethora of technologies and to a lesser extent standards to proliferate based on a parochial view that proven national solutions do not apply to local needs.

Shared Approach: Council A promotes partnership working, intended to ensure a complimentary and joined up approach in delivering comprehensive and sustainable improvements within an area. This has worked well in a project with emergency services for a specific business process where issues around information management and sharing were not involved.

7 Conclusions

In preparing the paper, the chief concern involved the availability of best practice applicable to the implementation of e-Government. It is encouraging that there exists a range of proven methods and tools to support agencies in their efforts in this area (notably SSADM and Prince2). The documented application of these techniques has contributed to the quality and success of IST project implementations. This is supported by the case study and the progress of e-Government on an international scale.

However, the paper needs to highlight two specific issues. Firstly, the way in which established techniques and methods are being applied in terms of focus on the issues arising from e-Government. The case study highlighted the treatment of e-Government as a project implementation, consisting of infrastructure, equipment and software. Current fieldwork and strong anecdotal evidence indicates that this approach is endemic across UK e-Government programmes.

Vassilakis et al (2003) commented on this in an assessment of electronic forms implementation by the Greek government, commenting on the development of electronic services was being treated as an isolated software project, thus information extracted

from the involved domain experts is recorded as low level 'user requirements', rather than as high level organisational knowledge. This supports the thinking of Wastell et al (2002) who assessed the selective emphasis placed by implementing authorities on improving service than addressing more complex issues around local government that e-Government raises, including access to democracy and policy making. This strategy, albeit unwittingly perhaps, of shifting the focus of the e-Government effort removes the emphasis on change and evolvement of government services from the delivery level upwards.

The second issue relates to the nature of best practice in the shape of methodologies. Previous evidence indicates that existing methodologies provide a rich seam of support for organisations contemplating a major IST programme of a similar scale to e-Government. These have been utilised to good effect in many cases, but the unique nature of e-Government has begun to show the limitations of existing material. Becker et al (2004) highlighted the value of existing process oriented techniques leading to modernisation, contrasting to the reducing value of systems models in the face of rapid technology change, privacy and usage issues.

This is of little comfort to current and potential implementers of e-Government. The SPRINT approach, addressing introduction of new technology into an organisation, may provide a potential route for new methodologies to be developed. This growing emphasis on standards in a rapidly changing environment in order to ensure interoperability presents a potential shift in IS design. This shift indicates a more technological approach, as opposed to a more user centric view that was discussed by Moen and McClure (1994).

The previous successful application of methodologies for implementation of e-Government has coincided with a clear national framework firmly supported by the national government. These frameworks have specified specific targets, incorporated the change, service and democratic issues at their heart and been nationally co-coordinated and well funded. The issues surrounding implementation of e-Government in the UK has occurred not to a lack of supportive best practice examples or tools and techniques, but to a combination of lack of firm direction and steerage from central government tied to a local dilution of policy resulting in e-Government programmes becoming IT projects as opposed to change agents.

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