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Recommended Citation

Scott, Murray; Golden, Dr. Willie; and Hughes, Martin, "Implementation Strategies for eGovernment: A Stakeholder Analysis Approach" (2004). *ECIS 2004 Proceedings*. 101.

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IMPLEMENTATION STRATEGIES FOR E-GOVERNMENT: A STAKEHOLDER ANALYSIS APPROACH

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Abstract

This paper reports from a comprehensive study of e-government implementation in Ireland, conducted over the last two years. An in-depth case study is presented detailing the development of a dual strategy for implementation and provides a comparison of the results from this approach. The success and shortcomings of both approaches are identified, providing in-depth analysis into the identification and management of critical concerns in the implementation of citizen-centred e-government. Specifically, this paper highlights the importance of accounting for social and political features, unique to the public sector, which in this case have had a decisive impact on e-government implementation. Public sector organisations in particular present unique challenges to the implementation process and implementation strategies often require particular attention to the social and political elements inherent in organisational change. In e-government implementation, the main barriers are not technical but social and cultural. Implementation strategies should therefore support the process of managing stakeholder relations in order to reduce the risk of stakeholder conflict and ensure the success of e-government initiatives.

Keywords: E-Government, IS Implementation, Public Sector, Ireland.

1 INTRODUCTION

Competitive pressures constantly force organizations to re-evaluate their business strategies (Venkatraman, 1994, Porter, 2001). Although public sector organizations may not operate in a competitive environment, changes in management philosophies are causing public sector organizations to think and act more like private sector organizations (Gulledge and Sommers, 2002). E-government provides unprecedented opportunities for governments to streamline processes and improve customer service (Bannister and Walsh, 2002, Heeks, 1999). As a result, achieving successful citizen centric e-government has become a key concern for many governments (Li, 2003). However, given the unique characteristics of public sector organizations, the cultural acceptance of technology and its implementation are critical success factors in public sector organizations.

2 E-GOVERNMENT IMPLEMENTATION

The attainment of e-government is of strategic importance for governments. Consequently many governments are adopting a staged development approach to ensure successful implementation (Bellamy and Taylor, 1994, West, 2001, Li, 2003, Watson and Mundy, 2001, Carrick, 2001). In 2000, at the Lisbon summit of the European Council, a four stage framework was proposed to aid in the development of e-government services; these stages included: the information stage (for the presentation of public service information); the interaction stage (for the provision of downloadable forms); the interactive stage (for the online processing of forms); and the transaction stage (for the provision of fully integrated electronic services). This framework has been adopted or closely resembles many other staged models for e-government implementation for example, those developed by Deloitte Consulting, the Australian National Audit Office and Cap Gemini Ernst and Young.

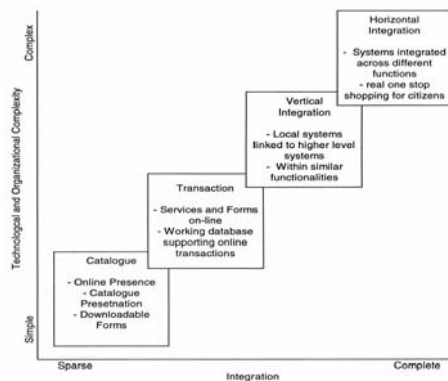


Figure 1 Evolutionary Model for E-Government. Source (Layne and Lee, 2001)

Layne and Lee (2001) have proposed a similar framework for the evolutionary implementation of e-government, including the stages of cataloguing, transaction, vertical integration and horizontal integration. Cataloguing requires government agencies to create static web sites to gain 'online presence'. Public service information is catalogued for presentation to citizens, usually organised into departments. In the transaction stage the government offers online interfaces for the user to interact with for the purpose of paying fines or renewing licenses. This type of electronic transaction is typically characterised by the use of downloadable forms that require minimal interaction from government staff. Vertical integration requires integration between local and central agencies that exist within the same function. The target is to provide a seamless link between local and national databases that share a common information source, thus reducing redundancies and inconsistencies in the information stored about individual citizens (Gant and Gant, 2001, Watson and Mundy, 2001,

Fernandes et al., 2001). The final stage of evolution requires horizontal integration across not only different levels of government but also integration across different functions of government. This stage of integration will support 'one stop shopping' and offers the potential for improved efficiencies through organisational reform.

Layne and Lee (2001) argue that the benefits of e-government will be realised when full service integration is achieved in stage 4. The challenge in achieving such significant organisational change has encouraged the adoption of a staged implementation approach (Al-Kibisi et al., 2001). Experience from other public sector implementation approaches has highlighted this strategy as conducive to organisational learning and providing greater allowance for social and political issues to be resolved (Bellamy and Taylor, 1994, Carrick, 2001, Willcocks, 1994).

2.1 Information Systems Implementation

The examination of social and political factors is argued to have an essential role in the study of implementing information systems. This approach is predicated on the importance of issues such as user resistance, power, politics, value conflicts and social choice (Kling, 1978). Hirschheim and Newman (1991) argue that conventional systems development approaches concentrate on the technical process of implementation and ignore the importance of the political process involved in organisational change (Keen, 1981). This view requires attention to coalition building and is developed by Markus and Pfeffer (1983) who address the need for political strategies and tactics to minimize resistance and maximise system success.

The social and political dynamics involved in IS implementation are further developed by Myers (1994) and Avgerou (2001) as an understanding of the organisational context and its history are argued to be crucial for successful IS implementation. The importance of the organisational context is made explicit by Swanson (1988) who notes that the implementation effort is situated within an environment of commitments and expectation. Thus for effective IS implementation the developers must know who the stakeholders are and gain an understanding of the politics involved (Myers, 1994, Walsham, 1993). An understanding of the technological context is also required, as each organisation may present unique challenges in implementation; it is unlikely that one framework or methodology for implementation will suit all situations (Myers, 1994).

2.2 The Stakeholder Concept in IS Implementation

The importance of stakeholders to IS implementation has gained increasing attention since it has become apparent that the successful development of a system is dependant on more organisational elements than technical aspects (Markus 1983). The primary purpose of stakeholder analysis is that the identification of multiple, possibly conflicting stakeholder groups will serve to benefit the development and implementation of an information system (Newman and Sabherwal, 1996, Pouloudi, 1998). Studying the attitudes and expectations of multiple stakeholders will increase the rate of acceptance and improve the quality of collaboration by removing or accounting for areas of conflict.

Lyytinen and Hirschheim (1987) argue that failure in the implementation of an information system is contingent on the ability of the system to meet the expectations and needs of different stakeholders. The authors call for a more comprehensive view of stakeholders, both internal and external to the system, in an effort to reveal the interests of the actor in relation to the IS and to focus on conflicts occurring inside these groups (Kling and Iacono, 1984, Franz and Robey, 1984, Markus 1983).

2.3 IS Implementation in the Public Sector

Implementation problems in the public sector possess unique characteristics particularly with reference to the social and political elements inherent in organisational change (Willcocks and Mark, 1989). The central issue highlighted by Willcocks (1994) is that IS implementation efforts are often

too narrowly focussed on the installation of a technical system ignoring the wider organisational aspects. Implementation problems are often attributed to inadequacies in the development of practical development frameworks that take into account social and political elements (Willcocks, 1994, Heeks, 1999, Li, 2003). Walsham (1993) argues that often the practical details of a policy's implementation are given less importance by policy makers and the effect is often a failure to appreciate the position of key stakeholders and to focus primarily on the technical aspects of the implementation process.

2.4 The Stakeholder Approach in E-Government

The complex nature of IS implementation in government has outlined areas in which a multitude of potential stakeholders can have a direct or indirect impact in the development of public sector services (Grant et al., 1991, Nutt and Backoff, 1987, Perrott, 1996). Many of the challenges faced by governments are organisational issues associated with the introduction of new technologies and work processes (Al-Kibisi et al., 2001, Jorgensen and Cable, 2002). The development of citizen-centred services further requires cooperation and technical compatibilities that may be difficult to engineer given the prevalence of institutional conservatism and risk aversion that characterises the public sector (Bellamy and Taylor, 1998, Heeks, 1999). The political context of the public sector highlights not only the multiple agencies that are involved in the implementation of e-government, but also the potential impact each can have to the successful development of e-government (Chan et al., 2003, Adelakun and Jennex, 2002). To support the implementation of e-government therefore, the process of identifying and managing a broad range of constituent stakeholders must be considered to ensure that the implementation process encompasses all levels of government, including local organisations and agencies (Chan et al., 2003, Pardo and Scholl, 2002). As Li (2003) states the main barriers to e-government implementation are not technical but social and cultural.

The usefulness of stakeholder theory has been identified as appropriate for the public sector (Tennert and Schroeder, 1999) and has been further developed to determine stakeholder requirements in e-government projects (Scholl, 2001, Pardo and Scholl, 2002). Chan et al.(2003) have developed stakeholder theory to analyse stakeholders in e-government initiatives to support the process of managing stakeholder relations, reduce the risk of stakeholder conflict and aid the process of e-government implementation.

3 RESEARCH PROCESS

In order to examine the evolution of e-government in Ireland and to note the differing attitudes of stakeholders as the implementation of e-government unfolded, this study adopted the process of stakeholder analysis. This process began in January 2002, continued until November 2003 and sought to investigate the evolutionary model proposed by Layne and Lee (2001). The research methodology was grounded in stakeholder analysis to ensure that critical stakeholders involved in e-government were identified and their multiple viewpoints accounted for in data analysis (Burgoyne, 1999). The principle of multiple interpretations required the seeking out and documenting of multiple viewpoints, the analysis of which involved seeking to understand conflicts relating to power, economics and social values (Klein and Myers, 1999).

An in-depth case study is presented consisting of 13 semi-structured interviews, supplemented by a questionnaire survey. Five in depth interviews were conducted with three central agencies involved in e-government: the first with a senior civil servant from the Department of An Taoiseach (Prime Minister) - the governmental department providing strategic leadership to e-government initiatives in Ireland; two in depth interviews were conducted with members of Reach - the executive body created specifically to implement e-government strategy; and a further two interviews were conducted with senior members of the Local Government Computer Supply Board (LGCSB), a public sector company providing IS services to local government. Six local authorities were identified for study including the counties of Clare, Cork, Donegal, Galway, Kerry and Mayo. In-depth interviews were carried out

onsite in June 2003 with IT managers from each county council, each lasting from between 2 and 4 hours. Interviews were also conducted with two health authority officials representing the Western and Southern Health Boards. Care was taken throughout the interviewing process to produce detailed reports as soon as possible to avoid the loss of data or impressions gained by the researcher (Darke et al., 1998). Records were kept of the content of all interviews. Further clarifications and updates were obtained by email and telephone contact. A survey-based questionnaire was further conducted with staff members from Co. Donegal. The researcher gathered 85 responses from a total of 110 staff members, resulting in a response rate of 77%.

4 CASE STUDY – IMPLEMENTING E-GOVERNMENT IN IRELAND

4.1 Development of E-Government Strategy

In January 1999, the Irish Government released the first action plan for the Information Society. The plan outlined a three-strand approach to online delivery of public services: information services, interactive services and integrated services. The objectives of information services were to mandate government agencies to develop web sites for the purpose of providing better access to public service information. The focus of interactive services was to guide the development of electronic service delivery, electronic payments, and other electronic exchange methods between government agencies and citizens. Various pilot schemes were identified for the purpose of developing delivery channels for e-government services. Finally, integrated services gave recognition to the organisational complexity in developing fully integrated services and proposed a detailed examination of the technical and organisational issues involved to ensure successful implementation. The plan spearheaded the drive to make better use of the Internet for information dissemination and introduced the concept of a portal as the possible architecture for a public service access interface.

Towards the end of 2000 the Reach agency was officially established to implement e-government strategy and to provide management of the overall e-government initiative. Initially Reach was composed of 11 members, all civil servants who were drawn from a variety of departments, reporting to the Department of An Taoiseach. The Reach agency was given responsibility over two strands outlined in the 1999 Action Plan: the development of an electronic access interface for interactive services and to research the technical and organisational issues involved in developing integrated services. The concept of a portal based Public Service Broker (PSB) was adopted by Reach as the central mechanism for delivering these objectives. The PSB will provide a single point of access to all services of both central and local government. The revolutionary aspect of the PSB is that the service is to be provided from the customer's perspective not the service provider. The PSB will make services available through many access channels; these include online self-service, assisted service through telephone contact centers and one-stop shops.

In April 2002, the second government action plan entitled 'New Connections' was published. The model of the PSB was endorsed and prioritised in this document. Specifically the development of multiple access channels was highlighted to ensure that all citizens have access to the benefits of integrated services. To achieve this objective the document highlights the introduction of pilot schemes, initiated in the first action plan, for the development of integrated services from multiple access channels. The pilot schemes were also identified as appropriate to test various organisational models necessary to support service integration. The government also made a commitment to have all public services capable of electronic delivery available through a single point of contact by 2005.

4.2 Implementing E-Government by a Central Agency

The Reach agency provided central management over a number of key implementation developments. In November 2000, as an initial step in the move towards e-government, the OASIS www.oasis.gov.ie

and BASIS www.basis.ie web sites were launched. These web sites provide detailed information on government services to citizens and businesses respectively. With a focus on customer requirements these sites broke the long-standing tradition of distributing government information along functional lines. Local authority web sites were also substantially redeveloped to provide service information to citizens as required by the information services strand of the 1999 Government Action Plan. Also during 2000, LGCSB developed electronic forms (e-forms) for use on local authority web sites. These forms were web versions of the traditional paper based form. Users could register with their local authority but there was no online system in place either to process the form electronically or to authenticate the individual. These initial e-forms served only to promote the accessibility of public service forms through an electronic medium.

During 2001, Reach, in partnership with LGCSB, developed an interim level PSB. LGCSB was identified as a technical partner for two reasons; first LGCSB had gained significant expertise through the implementation of e-forms and second local authorities had a tried and trusted relationship established with LGCSB. This interim service became known as reachservices and was officially launched in April 2002.

The main technical challenge in the development of reachservices was to have every local authority paper based form available online for electronic download and submission. Each of the 46 local authorities had at least 133 forms that they required to be individually customisable. This resulted in a total requirement of in excess of 5,000 forms, excluding the health boards. To meet this requirement, LGCSB developed a centrally administered system that would allow each local authority access to an electronic form builder. The form builder tool has a graphical user interface and is based on the idea that a generic form can accommodate any organisation for any citizen and cover any question. It enables the local authority to create their customised form that is then uploaded onto the reachservices site.

During 2002 a tendering process was also progressed by the Reach agency for the construction of the technical architecture for the PSB. It is expected that a vendor will be selected in 2004 and the installation of the infrastructure for the PSB is predicted by 2005.

4.3 Pilot Initiatives for Local E-Government Implementation

In line with strategy outlined in both action plans, the objective of a pilot scheme initiated in Donegal was to inform the development of integrated services delivered through the PSB. In tandem with this objective was the need to accommodate organisational issues in implementation, as previously defined in the first action plan. The majority of local authorities in Ireland have attempted to implement this strategy however, the development of a pilot scheme in Donegal was the only pilot project supported by central government. In 2001 the Minister for the Environment and Local Government allocated £1.8 million to the development of the pilot.

At the centre of the pilot scheme was the development of Integrated Service Centres (ISC). These centres explore the potential of offering integrated services to local citizens, delivered through physical channels. To achieve service integration council managers focused first on developing better collaboration between agencies supported by appropriate ICT infrastructure and second on redesigning back end processes. The technical infrastructure developed includes distributed databases in each ISC that maintain information on individuals regardless of location and a corporate Intranet, which serves as a central repository for Council Departments facilitating the exchange of files and messages. The intranet incorporates some innovative facilities for example the use of the e-forms engine provided through reachservices and access to the informational OASIS and BASIS web sites

The ISC provides a range of core local government services e.g. housing and unemployment services and has developed an intermediary service from which services can be activated as well as the provision of detailed information and advice. In the past citizens were required to contact every agency involved in the delivery of a particular service, for example, to avail of housing services

citizens were forced to contact the North Western Health Board, Donegal County Council, the Department of Social Community and Family Affairs and the Revenue Commissioners individually. The ISC however, has developed sufficiently effective collaboration between local agencies that in redesigning this service, the citizen is only required to make a single interaction with the ISC to expedite the service. A total of six ISC are planned for County Donegal with 4 currently in operation.

5 FINDINGS

The implementation of e-government strategy has occurred through a two-strand approach: first as directed by a central agency: Reach and second through the development of localised pilot schemes. Both approaches have focused on the development of integrated services delivered through multiple channels and are mandated to address organisational as well as technical issues in implementation.

5.1 Reach

The approach adopted by the Reach agency has been characterised first by a technical focus on development and second on an incremental approach similar to the evolutionary model outlined by Layne and Lee (2001). The developments of this approach can be compared with the Layne and Lee (2001) evolutionary framework.

The development of local authority web sites and later OASIS and BASIS represent the first evidence of a clear shift from a departmental orientation to a customer-focused orientation. Along with the redevelopment of local authority web sites these developments show a clear development in the provision of citizen-centred information in line with the information services strand of the First Government Action Plan. As such these developments fulfil the requirements for stage 1 in the online presentation of public service information. The implementation of e-forms on local authority web sites by LGCSB provided a central repository of downloadable forms. Reach further identified the e-forms development as a potential framework to develop an electronic access interface for the purpose of delivering integrated services, as mandated by the First Government Action Plan. The functionality of e-forms thus satisfies the characteristics of stage 2.

The launch of the reachservices portal, which connects local and central systems through the use of a centralised database allows for a degree of vertical integration and the functionality to process certain forms online. This development was in response to a clear mandate to improve the quality of online public services, as outlined in the New Connections Action Plan. The specific development of a portal in this case was adopted in order to develop integrated services accessible from a single point. The design of the portal includes multiple access points, as a key strategic requirement of the New Connections Action Plan was to ensure that equal access to government services is provided for citizens. These technical developments satisfy certain characteristics of stage 3 i.e. online processing of forms. However, as yet there has been no development in cross-agency integration to utilise the potential of the reachservices infrastructure to provide service integration.

Reach has successfully implemented the requirements of stage 2 of the Layne and Lee (2001) model, which are predominantly technical in nature and has only satisfied the technical requirements of stage 3. Local and central databases have been connected however, the portal offers no functionality to process forms online and there is no evidence of cross-agency integration on a local or central level. Although the requirements of stage 3 necessitate organisational change to achieve service integration, to this point the entire effort of the Reach agency has focused on developing the technical architecture for the portal. Initially the reachservices portal was adopted by every local authority and by the majority of health boards. Customisable forms combined with the usability of the form builder and the existing relationships between LGCSB greatly impacted on the rate of buy-in by the local authorities. Recently however, the level of support for reachservices has significantly deteriorated among local agency stakeholders.

Local authorities reported that the main reason for the current lack of support for reachservices is that e-government development at a local level is inadequate. Only two local authorities stated that their service departments had the technical ability to receive forms submitted from citizens and in these cases there was no means to electronically process the form. For one of these local authorities, although the form could be received by the relevant agency, the service could not be progressed until an identical paper-based form was also received from the citizen in the traditional manner.

Local authorities identified a lack of involvement from Reach in local development issues and highlighted the need for practical frameworks from which to implement necessary organisational and technical changes. Li (2003) identified similar findings related to the need for support in local development initiatives. In this case, local authorities identified various organisational, historical and political features that have made relations with local service providers difficult. Similar to other studies (Willcocks, 1994, Bellamy and Taylor, 1994), local authorities acknowledged that public sector organisations are generally more risk adverse than the private sector and consequently less likely to become involved in e-government initiatives. These organisational issues were initially identified in the first action plan as requiring specific attention in implementation; Reach, in adopting a technical approach, has offered no central management for their development.

In October 2003, a report produced by the Information Society Commission (ISC), an independent advisory body to the Irish government, reported that Reach has made inadequate progress in the development of the PSB and highlights concern in government that a failure to establish a functional PSB has the potential to undermine the progress of individual departments and agencies in implementing the e-government agenda. Cross-agency collaboration is identified as a key priority and the report highlights the importance of streamlining and re-engineering back-end processes in order to support future e-enabled service delivery. In addition to delivering services online, the report also highlights the potential of e-government to improve the quality of existing services delivered through more traditional channels. Similar to the recommendations of the ISC report, evidence from local authorities highlight a lack of overall development of the PSB, particularly with reference to local and organisational issues.

5.2 An Alternative Approach to Implementation – Pilot Initiatives

The development of the ISC in Donegal is evidence of an attempt by a local authority to progress organisational development in accordance with strategies to deliver fully integrated services. Donegal county council (DCC) radically altered its organisational structure to support the process of delivering services through the ISC. By replacing the traditional, bureaucratic structure, senior management in DCC delegated decision-making to the area management level to foster inter-agency working relationships in the provision of services. The decentralisation of the management structure allows decision making to occur in the distributed locations of the ISC and promotes cross-functional activities between service providers.

Stakeholder involvement was the focus of this approach as local management identified the primary challenge to implementation as consisting not of technical problems but of social and political issues. The development of a clear development strategy highlighted certain key components: stakeholder involvement, organisational change strategies focussing on inter-agency collaboration and management decentralisation and the use of ICT as an enabler of the change process.

The inclusion of stakeholders in the process of organisational change was the primary feature of the implementation approach. The attitudes of Council staff members has frequently been sought by Council management and played an important role in the negotiations between management and staff in the process of developing strategies for implementing integrated services. Many of the suggestions made by staff throughout the negotiating process have been included in the design of the ISC. Some of these suggestions related to accountability, communication from management and employment roles. The process of negotiating with staff members appears to have justified the stakeholder analysis approach, as certain suggestions made by staff members have been resolved in the current design of

the ISC. 55% of staff members indicated that they either agreed or strongly agreed with having a more clearly defined role since the introduction of the ISC. In response to the level of communication from management regarding policy guidelines for services, local management in particular supported the changes as 60% of managers strongly agreed. A total of 69% of staff agreed or strongly agreed with the provision of a more challenging environment in the ISC, while 70% identified a more positive working environment since the introduction of the ISC. Finally, over 50% of staff members agreed or strongly agreed with an increase in accountability for departments in the provision of services to customers.

The process of organisational restructuring was identified by management as critical to achieving better collaboration between agencies and to create an environment that will support the introduction of new technologies. An important feature of the process of organisational restructuring was the delegation of authority to the local management level. This is a radical change from the traditional bureaucratic reporting framework of the Irish public sector, but was deemed essential to support the process of developing cross-agency linkages. By allowing local management greater decision-making abilities, senior management enabled the creation of more productive working relationships among local departments. Not only has this increased the usefulness of relationships that can be formed, but the consequent service to citizens has also resulted in being more effective and co-ordinated. The development of inter-agency collaboration has further enabled departments to provide a more flexible and responsive service: given the decentralised nature of the ISC and the closer contact with other service agencies, local managers are better able to form a deeper understanding of citizen needs and a more holistic appreciation of the services provided by local government. This case of organisational restructuring has resulted in an increased need for customer relationship management and has further enabled management to view the service they had traditionally provided from a departmental perspective from a citizen-centred one.

Overall, 53% of staff members agreed with the increased delegation of authority that is a key feature of the ISC and 19% strongly agreed with this position. Staff members of the ISC have also responded positively to the increase in cooperation between departments since the introduction of the ISC and further believe that this has had a positive impact on the provision of service. 83% of staff either agree or strongly agree with the increase in cooperation since the introduction of the ISC.

Management believed that the use of ICT was central to the development of better service provision. Networking infrastructure is important to connect the disparate locations of the ISC to a centralised repository and the ability to access the Intranet is important for staff to access information and communication technologies. Furthermore, management considered that access to electronic forms would increase the convenience and efficiency of providing services and would also facilitate collaboration with other agencies. The Intranet is rated strongly by staff with over 64% agreeing that it enabled collaboration with other departments. 94% of management either agreed or strongly agreed with this assessment of the Intranet. However, only 46% of staff members agreed that e-forms enabled more efficient service provision, highlighting the low level of adoption and lack of functionality available from reachservices. Management were more supportive of e-forms however, with 67% either agreeing or strongly agreeing with the benefits of their use.

In summary, the overall response from staff members to the change process has been positive. The implementation approach has been responsive to the potential for political resistance to change and has focused on including stakeholder opinion in the development of strategy and the process of implementation. As a result, due to the successful development of inter-agency co-operation combined with the use of ICT, service integration has been achieved and as a result a better quality of public service. One of the key features that enabled the development of integrated services was the implementation of process redesign among service providers. The purpose of conducting process redesign was to identify ways in which ICT could be used to gain efficiencies in the delivery of services, facilitated by agencies willing to collaborate. Management in Donegal were thus able to achieve a realistic level of service integration and provide the customer with a more co-ordinated, efficient range of services.

6 DISCUSSION

The evolutionary model proposed by Layne and Lee (2001) ultimately requires significant organisational change to achieve vertical and horizontal integration. However, the initial focus of the model concerns purely technical issues. In adopting such an incremental approach to implementation, Reach has gained success in the early development stages by implementing technical solutions. Although these developments were initially supported by local agencies, the current evolutionary process has encountered resistance and while Reach has proven that the local authorities are willing to participate in reachservices, they have not proven that these authorities are willing or capable of implementing more fundamental organisational change.

The evidence from this case suggests that by following an evolutionary model there is the potential to ignore the social and political nature of the implementation process; in this case the organisational aspects were initially ignored by Reach in favour of adopting a technically focused implementation strategy. In turn when the evolution of e-government reaches stage 3 of the evolutionary model, where organisational issues become the focus of the implementation process, key stakeholders may have already formed strong resistance endangering the overall success of the development. In this case local authorities have developed a resistance to the Reach agency because they feel local development issues have been overlooked in favour of technological development. In common with findings from Li (2003), local management believe that IT is the easy part the real challenge lies in more fundamental organisational changes.

The alternative view of implementation, provided through the developments made in Donegal, supports the role of stakeholder analysis in the implementation of e-government. This approach accounts for the shortcomings of the Layne and Lee (2001) model by adopting an approach that implicitly accounts for particular social and political challenges in implementation. This strategy for e-government focuses less on the technical delivery of services (front-end web development) and more on enabling the transformation of organisational back-end processes. This approach is predicated on securing stakeholder involvement at the outset of the implementation process and on tackling the issue of service integration first. The key challenge, identified by management in Donegal for developing integrated services, is to examine how IT can improve the service by identifying what specific elements of the service can be automated or redesigned. The assumption of this is that, in most cases, a full and complete redesign of services will not be possible. Li (2003) has argued that individual organisations must tailor strategies to account for their own individual needs and Myers (1994) has shown that organisations must appreciate and accommodate their inherent uniqueness to successfully implement IS. The key to this alternative approach is the recognition that most services have some level of inefficiency due to political structures; the challenge for individual organisations is to target areas where efficiencies can be gained. In order to achieve this, stakeholder involvement is essential.

7 CONCLUSIONS

This case provides evidence of potential shortcomings in evolutionary e-government models such as the example proposed by Layne and Lee (2001). The efforts of the Reach agency have met stakeholder resistance at the interaction and transaction stages due to a solely technical approach to implementation. This suggests that an important shift in emphasis occurs at stage 3 in the Layne and Lee (2001) model: while the initial stages require only technical changes in order to achieve success, stages 3 and 4 require a more sophisticated level of organisational change to achieve the objective of integrated services. At this stage the implementation approach should therefore take into account the realism of political conflict, the multitude of potential agencies that can impact the development process and thus the need to gain stakeholder support. In this case however, the approach pursued by Reach highlights weaknesses in implementation models such as Layne and Lee (2001) given the clear bias towards technological issues and the lack of attention to stakeholder concerns has created clear impediments to development.

The central lesson from the Donegal experience is that the logical starting point for e-government implementation is an approach that prioritises organisational change issues over technical ones. Stakeholder involvement in this pilot scheme has emerged as essential to implementation success for two reasons: first to reduce stakeholder resistance and to ensure usage of the system and second, to allow for process redesign to occur thereby enabling service integration. In tandem this requires that attention be given primarily to examining how services can achieve integration. In practice few services can achieve full integration, so attention must be given to where efficiencies can be gained.

The implementation of e-government requires the participation of a wide variety of affected parties, some of which are required to co-operate in the development of integrated services in a manner that is entirely novel to them. The breadth of potential stakeholders and the need for cross-departmental integration highlights the difference between e-government implementation from previous IS implementation in the public sector. Adopting an approach that is appreciative of organisational elements has been argued as essential for public sector IS implementation; in e-government the importance of this feature is even more critical.

References

- Adelakun, O. and Jennex, M. (2002) Stakeholder process approach to Information Systems evaluation. *The Eighth Americas Conference on Information Systems*.
- Al-Kibisi, G., de Boer, K., Mourshed, M. and Rea, N. (2001) Putting citizens on-line, not inline. *The McKinsey Quarterly*, Special Edition (2) pp64.
- Avgerou, C. (2001) The significance of context in information systems and organizational change. *Information Systems Journal*, 1 (43) pp.
- Bannister, F. and Walsh, N. (2002) The virtual public servant: Ireland's public services broker. *Information Polity: The International Journal of Government & Democracy in the Information Age*, 7 (2/3) pp115.
- Bellamy, C. and Taylor, J. A. (1994) Reinventing Government in the Information Age. *Public Money & Management*, 14 (3) pp59.
- Bellamy, C. and Taylor, J. A. (1998) *Governing in the Information Age*, Open University Press, Buckingham
- Burgoyne, J. G. (1999) Stakeholder Analysis, In *Qualitative methods in organisational research. A practical guide*(Eds, Cassell, C. and Symon, G.) Sage, London, pp. 187-208.
- Carrick, K. (2001) E-Government - Lessons to be learned from e-Business experience. *European Conference on E-Government*, 91-99.
- Chan, C. M. L., Shan-Ling, P. and Tan, C.-W. (2003) Managing Stakeholder Relationships in an e-government project, In Ninth Americas Conference on Information Systems, Florida.
- Darke, P., Shanks, G. and Broadbent, M. (1998) Successfully completing case study research: combining rigour, relevance and pragmatism. *Information Systems Journal*, 8 (4) pp273-289.
- Fernandes, D., Wilpen, G. and Krishnan, R. (2001) ServiceNet: An agent-based framework for one-stop E-Government services. *In the Proceedings of the Seventh Americas Conference on Information Systems*.
- Franz, C. R. and Robey, D. (1984) An investigation of user-led system design: Rational and Political perspectives. *Communications of the ACM*, 27 (12) pp1202-1209.
- Gant, J. P. and Gant, D. B. (2001) Web portals and their role in E-Government. *In the Proceedings of the Seventh Americas Conference on Information Systems*.
- Grant, T. S., Wix, T. S., Whitehead, C. J. and Blair, J. D. (1991) Strategies for assessing and managing organisational stakeholders. *Academy of Management Executive*, 61-75.
- Gulledge, T. R. and Sommers, R. A. (2002) Business process management: public sector implications. *Business Process Management Journal*, 8 (4) pp364-376.
- Heeks, R. (Ed.) (1999) *Reinventing Government in the Information Age: International Practice in IT enabled public sector reform*, Routledge, London

- Hirschheim, R. and Newman, M. (1991) Symbolism and Information Systems Development: Myth, Metaphore and Magic. *Information Systems Research*, 2 (1) pp29.
- Jorgensen, D. J. and Cable, S. (2002) Facing the Challenges of E-Government: A Case Study of the City of Corpus Christi, Texas. *S.A.M. Advanced Management Journal*, 67 (3) pp15.
- Keen, P. (1981) Information systems and organisational change. *Communications of the ACM*, 24 (1) pp24-33.
- Klein, H. and Myers, M. (1999) A Set of Principles for Conducting and Evaluating Interpretative Field Studies in Information Systems. *MIS Quarterly*, 23 (1) pp67-94.
- Kling, R. (1978) Value conflicts and social choice in electronic funds transfer development. *Communications of the ACM*, 21 (8) pp642.
- Kling, R. and Iacono, S. (1984) The control of information systems development after implementation. *Communications of the ACM*, 27 (12) pp1218-1226.
- Layne, K. and Lee, J. (2001) Developing fully functional E-government: A four stage model. *Government Information Quarterly*, 18 (2) pp122.
- Li, F. (2003) Implementing E-Government strategy in Scotland: current situation and emerging issues. *Journal of Electronic Commerce in Organizations*, 1 (2) pp44-65.
- Lyytinen, K. and Hirschheim, R. (1987) Information systems failures - a survey and classification of the empirical literature, In *Oxford Surveys in Information Technology* Oxford University Press, Oxford.
- Markus, M. L. (1983) Power, politics, and MIS implementation. *Communications of the Acm*, 26 (6) pp.
- Markus, M. L. and Pfeffer, J. (1983) Power and the design and implementation of accounting and control systems. *Accounting, Organisations and Society*, 8 (2/3) pp205-218.
- Myers, M. D. (1994) Dialectical hermeneutics: a theoretical framework for the implementation of information systems. *Information Systems Journal*, 5 (1) pp51-70.
- Newman, M. and Sabherwal, R. (1996) Determinants of Commitment to Information Systems Development: A Longitudinal Investigation. *MIS Quarterly*, 20 (1) pp23-54.
- Nutt, P. C. and Backoff, R. W. (1987) A strategic management process for public and third sector organisations. *A.P.A Journal*, (4) pp44-57.
- Pardo, T. A. and Scholl, H. J. (2002) Walking atop the cliffs: avoiding failure and avoiding risk in large scale e-government projects, In Hawai'i International Conference on System Sciences.
- Perrott, B. E. (1996) Managing Strategic Issues in the Public Service. *Long Range Planning*, 29 (3) pp337-345.
- Porter, M. (2001) Strategy and the Internet. *Harvard Business Review*, 79 (3) pp63.
- Pouloudi, A. (1998) Stakeholder analysis for inter-organisational information systems in healthcare, In London School of Economics.
- Scholl, H. J. (2001) Applying stakeholder theory to e-government, In *Towards the E-Society: E-Commerce, E-Business and E-Government*(Eds, Schmidt, B., Stanoevska-Slabeva, K. and Tschammer, V.) Kluwer Academic Publishers, Massachusetts.
- Swanson, E. B. (1988) *Information systems implementation: bridging the gap between design and utilisation*, Richard D. Irwin, Homewood, Ill
- Tennert, J. R. and Schroeder, A. D. (1999) Stakeholder Analysis, In American Society for Public Administration.
- Venkatraman, V. (1994) IT - Enabled business transformation: from automation to business scope redefinition. *Sloan Management Review*, 35 (2) pp73.
- Walsham, G. (1993) *Interpreting Information Systems in Organizations*, Wiley & Sons, Chichester
- Watson, R. T. and Mundy, B. (2001) A strategic perspective of electronic democracy. *Communications of the ACM*, 44 (1) pp27.
- World Markets Research Centre, Brown University, USA (2001), *Global e-government Survey*,
- Willcocks, L. P. (1994) Managing information systems in UK public administration: Issues and prospects. *Public Administration*, 72 (1) pp13.
- Willcocks, L. P. and Mark, A. L. (1989) IT Systems Implementation: Research Findings from the Public Sector. *Journal of Information Technology*, 4 (2) pp92.

