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# A Case Study Analysis of Factors determining Success or Failure for Participants in Collaborative Innovation Projects in E-Government

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## Abstract

In this paper we use the case study of a successful innovative e-government project, iSAC6+, to examine some of the key factors in the project's success with the aim of contributing to the general understanding of the challenges associated with managing e-government projects. We make observations, identify areas for deeper consideration and draw conclusions as to how lessons learned might be applied to other e-government projects. There has been considerable analysis into the success and failure of e-government projects. We analyse some of the literature to identify the unique features which might add additional challenge and risk to e-government projects and then focus on the case study, specifically on individual participants and stakeholders rather than on the project as a whole. The discussion looks at the vulnerability of e-gov projects resulting from one of their defining characteristics, their collaborative and multi-organisational nature. A collaborative project which meets its objectives will rightly be seen as a success, though this may not be the viewpoint of all participants, some of whom may have found that the hoped for benefits have not been realised. For these participants the project is at best a limited success, but for many, a failure. The high failure rate for e-government projects is researched, analysed and documented. One feature which is a consequence of the complex and unpredictable environment within which e-government initiatives take place is that they are inherently innovative in that their purpose is invariably aimed at establishing new IT enabled solutions to embedded and complex problems. Innovative projects operating in complex, unpredictable environments are at high risk of failure for some if not all participants. The aim of iSAC6+, was to implement of a semantic web based Citizens Advice Service (CAS) application in five pilots. Success was judged by the achievement of cost and quality benefits for all stakeholders, citizens and administrators (cost burden reduction), and by the impact on the pilot organisation and operation (service modification). The analysis will demonstrate how the development of a management and measurement framework based upon the strategic aims and objectives for each partner supported success. It will also show how absence or lack of clarity about aims and objectives adversely affected some partners. Finally the paper will make comments and suggestions based upon the lessons learned.

## Keywords

E-government, project management, collaboration, project success.

## Introduction

In this paper we use the case study of a successful innovative e-government project to identify some of the key factors contributing to the success of this particular project with the overall aim of contributing to the general understanding of the challenges associated with managing e-government projects. We make observations, identify areas for deeper consideration and draw conclusions as to how lessons learned might be applied to other e-government projects. The focus of the analysis is on individual participants and stakeholders rather than on the project as a whole. The analysis will start with a view of the performance and success of the whole project, but will then move on to look at the objectives, expectations and intentions of individual partners or stakeholders and how well these were met.

## Rationale

There is a considerable amount of analysis and discussion relating to the success and failure of e-government projects, and some of it will be referred to below. Much of the discussion could be applied to IT Projects in general, but here the discussion looks at the vulnerability of e-gov projects resulting from one of their defining characteristics, their collaborative and multi-organisational nature. The basis of this paper is that in addition to the risks inherent in IT projects generally, e-government projects present a set of unique project management challenges which need to be properly understood if the aim of innovation in government through Information Technology is to be achieved. In particular the collaborative nature of such projects, will be examined through the use of a case study to identify the nature of the challenge, and to suggest approaches to meeting this challenge. While the impact on individual partners or stakeholders is sometimes identified as an indicator of failure, it does not appear to have been investigated as an issue in its own right, with its own problems to address and lessons to be learned. While a collaborative project which has many participants, like iSAC6, may be viewed as an success, as will be described later, this may not be the viewpoint of all participants, some of whom may have left the project before its conclusion, or found that the hoped for benefits have not been realised. For these participants the project is at best a limited success, but for many it is a failure with an investment of funds, people and commitment failing to deliver any return. (EUROPEAN COURT OF AUDITORS, 2011) It is a scenario which is common in EU funded research projects, but which has also been the subject of comment in studies of projects elsewhere in both developed and developing economies. (Grant Thornton, 2011)

The analysis will first look at the characteristics peculiar to e-government projects and discuss how these pose risks and present challenges not usually faced in other IT projects. We will then focus in particular on the individual participant perspective during the initial phases of the project and look for any relationship between this starting point and eventual success or failure.

## Features of e-government projects

Government organisations at all levels seek change: operationally in terms of the effectiveness, efficiency, scope, quality and cost of the services they provide; and strategically in terms of working practices, organisational culture and relationship with stakeholders. For approximately the last 10-15 years the focus of change has been on research into, and implementation of, e-government initiatives. E-government itself has come to include a wide range of initiatives and functions. It emerged alongside the Dot Com boom of the 1990s, growing rapidly from early use of the internet to disseminate public information and undertake public consultations developing in concept to include almost any IT supported public sector business process (Heeks, 2006). A thorough and highly informative analysis of the whole realm of e-government, including a selection of scoping

definitions, can be found in the report of the eGovRTD2020 project (Codagnone & Wimmer, 2007). The range and size of e-government is important for this discussion as it indicates a level of scope and complexity not generally evident in the private sector and thus perhaps indicates the need for different attitudes towards management and judgement of success or failure. In their case study comparison Melin and Axelsson ably demonstrate the challenges of e-government project management in a complex inter-organisational environment (Melin & Axelsson, 2009), while the Grant and Jordan consultancy report discussing strategy in the complexity of the Public Sector highlight three key features of relevance to this paper: multiple and potentially conflicting goals; the range of stakeholders; and unpredictability (Grant & Jordan, 2012). We will see all three of these features having an impact on some of the iSAC6 participants.

Perhaps the best known and most widely publicised feature of e-government projects is their propensity for failure.

In Special Report 9/2011 the European Court of Auditors observed that:

“The needs of citizens, businesses and administration were not determined in advance and strategic objectives were too general and lacked specific targets. There was insufficient analysis of what was actually required.” (EUROPEAN COURT OF AUDITORS, 2011)

The Auditors concluded that the absence of clear, quantifiable objectives was a significant contributor to the failure of ERDF e-government projects to meet needs and deliver value. Many other studies have highlighted the problems faced by e-government projects and the frequency with which they fail to deliver the desired benefits. In her analysis of e-Government project failure, Carolyne Stainforth quotes recent studies which “suggest between 60 to 80% of e-government projects fail in some way” (Stainforth, 2010). The UK National Audit Office, the statutory authority that reports to Parliament on the efficiency and effectiveness of resource deployment by government departments, estimate that 34 government IT projects “have a delivery confidence rating of ‘red’ or ‘amber/red”, that is they are not expected to deliver the benefits expected of them. Most of these projects fall within the broad description of e-government. In North America, according to a report from Grant Thornton, “USA (ranked 2nd in the United Nations Global E-Government Survey 2010), has spent about 600 bn USD in the previous 10 years, only to realize that the returns / benefits are far below the intended / expected benefits from large scale e-Government programmes .” (Grant Thornton, 2011). The problem is a global one, not just limited to the mature democracies and developed economies of Europe and North America. There are papers discussing the problems of e-government project failure in the Middle East (Al-Rashid, 2010), China (Janowski, et al., 2007), Egypt (Abdelsalam, et al., n.d.), US and Canada (Longford, 2002).

An echo of the view that e-government projects, by their nature, face a unique set of challenges can be found in “Foundations of Strategy” by Grant and Jordan. In their book the authors describe how the process of strategy formulation in the public sector is made difficult by a set of unique characteristics not found in the market led sectors (Grant & Jordan, 2012). Three of the seven distinguishing features are:

Multiple, potentially conflicting goals where organisations have many aims and drivers, not necessarily closely related and at times in conflict with each other. In effect, strategic activities require collaborations between different stakeholders within public sector organisations. As Cadognone and Wimmer point out, e-government projects frequently involve collaboration between organisations, thus increasing the level of risk.

Distinctive constraints and levers. The rules, constraints and procedures applying in the public sector are significantly different from those in the market sectors, and as a consequence the challenges for management greater.

Less predictability. Government takes place in a complex political, social and economic environment where the factors influencing and driving change are many and varied. When the risks inherent in IT

and innovation projects are added to this mix it is hardly surprising e-government projects find success so difficult to achieve.

Similarly Ward and Daniel in discussing the application of Benefits Management to management of IT projects identify two distinctive and potentially disruptive characteristics of public sector projects: imposed drivers and many stakeholders. The authors go on to discuss the value using Benefits Realisation techniques to manage the range of drivers and stakeholder expectations (Ward & Daniel, 2006), an approach which was used successfully in iSAC6 (Keefe, et al., 2012).

A consequence of the complex and unpredictable environment within which e-government initiatives take place is that they are inherently innovative insofar as that their purpose is invariably aimed at establishing new IT enabled solutions to complex problems. As Melin and Axelsson, quoting Heeks, put it “New e -government projects are typically initiated based on: “a problem that needs to be solved” or “identification of an opportunity which could be seized” (Melin & Axelsson, 2009). The problem in project management terms is this makes e-government projects inherently high risk. The challenge for the project manager is to find ways which enhance chances of success. To this end the paper will now focus on a success story, iSAC6.

## The case study - iSAC6+

### Background

iSAC6+ is an EU funded initiative aimed at utilising semantic web technology to enhance the provision of advice to Citizens by government Citizen Advice Service (CAS) offices. iSAC6 is the culmination of a series of developmental projects which created an innovative semantic web based application, refined it within a single pilot location and then moved on to a wider implementation.

The value added by iSAC6+ is in helping local government offices carry out their responsibilities for supporting the needs of citizens most at risk of social exclusion or marginalisation. Desired project outcomes were to:

- Reduce long term costs, a critical issue in the current “do more with less” economic climate;
- Apply innovation strategically and organisationally to improve competitiveness and enhance client-orientation as part of the drive towards professionalization of the public sector
- Improve the quality of citizen information services in terms of availability, accessibility, and usability, as well as enriching the information content and ensuring consistency of use.

### Summary of success from final report

Overall the project has been a marked success. The final report to the European Commission describes the key objectives (report wording in brackets). A synopsis of the project result, in italics, follows each objective.

- To achieve change in delivery of the public service within the pilot (Did iSAC catalyse change in the pilots?)

*The pilots experimented several shades of change in the service, in procedures, in policies of measuring quality of services, and impact in the organisation. The examples range from deep implication with strong leaders in the organisation to lighter implementations aside key players in the organisation. The common change is the adoption of a new approach to attending citizen information needs, to think of reducing ABR through better information provision with online and natural language interfaces, and to measure the impact on that adoption.*

- To achieve a real reduction in the cost for citizens and administration (Did the change contribute to any administrative burden reduction? Did it contribute to reduce the administrative costs as well?)

*A strong affirmative answer comes up from the pilots with significant service change/modification enabled by iSAC. Administrative burden reduction was achieved by both citizens and public administration through iSAC. It is estimated that the associated burdens to businesses are also relieved as they are part of the measures regarding the citizens in the piloting. The quantitative ABR is -0.78 Euro per capita. The quantitative and the qualitative burdens reduction are higher in those pilots with higher service modification.*

- To create a sustainable and transferable online public information application (Is there any endorsement or next adopters for its further deployment and sustainability? )

*There are now 8 new partners, referred to as “next adopters” about to start using iSAC6. The group of next adopters are all local municipalities from France, Italy, Spain and Belgium, with a balanced composition of small (three) and large (four). There is in addition a Belgian social enterprise.*

*They have adopted iSAC in the last track of the iSAC6+project in the period of March - September 2012. They have taken advantage from the lessons learned of other pilots in the project, which where assisting them in all the subjects related to change management, service modification, and technical assistance.*

*The six iSAC6+ pilots have had close contact with the next adopters, especially the three municipalities who have had a key leading role in the early adoption, transferring their enthusiasm and know-how to the next adopters of their country in France, Italy, and Catalonia-Spain. The two pilots not experiencing as much benefit as the municipalities were not successful in attracting next adopters.*

So the project as a whole has met its objectives and has been deservedly declared a success by its EU sponsors. However, as the final report points out, the success has been concentrated on the municipal function of providing a Citizens Advice Service, a valuable and very necessary service. In the case of iSAC6 the areas of failure, or reduced success, have not significantly affected the overall project performance, but in other projects the negative impact may have been more significant.

## **Partners and participants**

It is worth now looking in detail at the main participants, to see if we can identify the factors which made some highly successful and others much less so.

In iSAC6+ the primary operational objective was to achieve cost and quality benefits for all stakeholders: administrators; service users; and the wider citizenship. In a paper for ECEG 12 we described how we worked with public Administration partners to develop a cost and benefit model and how we identified operational objectives. For some partners we were able to additionally identify a range of organisational change objectives which had underpinned the initial decisions to participate in the project. Organisational and strategic change objectives are typically difficult to quantify and measure as they are often qualitative in nature and described in non-specific terms. The paper went on to describe how strategic objectives were elaborated to develop success factors and progress indicators, together with examples and explanations of how these strategic objectives were expected to be achieved (Keefe, et al., 2012). It was noticeable that three of the partners from what might be termed traditional city administrations were able to articulate their aims and objectives. The three others found this more difficult, having entered the project motivated more by a desire to explore possibilities offered by the technology rather than for reasons of process innovation and improvement.

The table below provides information about each partner and their project outcome. For the purpose of this paper we have included partners who withdrew at any stage including initial proposal.

Description	Strategic aims	Outcome
Pilot 1 A municipal authority, Spain.	Reduce the costs Improve administrative efficiency Improve service quality Digitise service delivery	Success The authority had been part of the original development projects and felt the project was a big success.
Pilot 2 A municipal authority, France.	Reduce the costs Improve administrative efficiency Improve service quality Encourage new ways of working	Success Embraced the project with enthusiasm and has consequently generated a high level of success in terms of service improvement, working practices and cost burden reduction.
Pilot 3 A municipal authority, Italy	Reduce the costs Improve administrative efficiency Improve service quality	Success The municipality already had a well-developed approach to monitoring service delivery and a productive IT support function. Worked closely with their own IT department and other pilots to implement an effective CAS.
Pilot 4 A technical support unit within a municipal authority, Germany	Demonstrate potential to reduce costs Encourage more e-working within the municipality	Success – none identified in terms of service modification or burden reduction. Within the project context, the pilot, in the framework of the iSAC6+ Project, provided a different organizational model compared to the other sites. It is responsible for the IT service of the city. Its main responsibility is for Information Technologies and has no specific citizen attention or information provision functions.
Pilot 5 A women's health information and awareness provider, Eire	Explore the potential of the system to improve information dissemination	Success – limited Provides a different operational model to other partner sites. It is an NGO and not publicly funded or governmental sponsored organisation. The iSAC project caused the management team to completely rethink their online service model together with the office and services back ends to help generate an integrated environment for management, staff, external supports and their information consumers. Measures were difficult to apply.
Pilot 6 A regional police force. UK	Explore the potential of the system to improve information dissemination within a larger programme	Failure The force came into the project after the failure of their outsource partner to deliver an associated programme. They struggled to clarify objectives and were unable to justify continuation when funding cuts were imposed

Description	Strategic aims	Outcome
Pilot 7 A large city authority, UK	Not stated	Withdrawn before committing resource Represented in the proposal bidding stages by an outsource supplier but pulled out before start-up because of lack of clarity over what the service would provide
Project Co-ordinators	University of Girona, Spain, supported by Sheffield Hallam University, UK	

The use of monitoring and measurement frameworks was highly successful in two areas:

- Measuring the value and cost of the service innovation to both citizens and administrative offices. The project team placed a high priority on developing a robust framework for monitoring progress and measuring benefits, using the Standard Cost Model (SCM) and Balanced Scorecard as described in the earlier ECEG12 paper (Keefe, et al., 2012). The task of identifying objectives, indicators and measures was difficult and protracted but it is arguable that the main benefit was in making project participants aware of the measurement process and its benefits (Bikfalvi, 2012). The benefits realisation approach in particular helped partners to identify and elaborate their individual aims and objectives.
- Creating a quantifiable measure for improvements in the organisation and administration of service delivery, referred to as “Service Modification”. This helped pilot partners specify where improvement had occurred, and also allowed the project management team to identify a relationship between this area and the achievement of cost reduction benefits (Bikfalvi, 2012).

It appears that those organisations which entered the project on an open-ended research basis struggled more to get benefit from it. One, for example, could not clearly define what they wanted to achieve. As a result they could not create a strong enough case to defend their involvement when they were faced with funding cuts. Those who could define their organisational strategic objectives are seeing very positive results

## Observations, recommendations and concluding remarks

Project success and failure are topics of a huge amount of discussion, especially in relation to e-government. Among IT Project Management experts there is a general agreement on the criticality of having a set of clear, defined and agreed aims and objectives before commencing any detailed form of project planning, let alone going ahead with the project e.g. (Cadle & Yeats, 2008) (Highsmith, 2010) (Marchewka, 2013).

### Observations

As discussed earlier, e-government projects are high risk in that they focus on innovation, have a high degree of complexity, and often have multiple objectives. Many particularly in the EU, are started as research activities with participants who are not clear what they want to achieve. As a result many do not deliver success, at least for some of their participants (EUROPEAN COURT OF AUDITORS, 2011). This is of course the case for other research areas but it is particularly relevant to e-government where the funding pressures are very restrictive and the types of partner organisations very diverse.

When we look at iSAC6 case study we find all three aspects are present. Clearly iSAC6 cannot be held up in comparison to the huge range of diverse and immensely larger e-government projects.

However there are lessons which would be of value to many project managers and sponsors, particularly within the EU.

iSAC6 has been highly successful in meeting its core objectives, and as a consequence is set to expand and build upon that success. The factors forming the keys to this success are:

1. The project has had a clear and consistent focus upon improving a standard but very important government process, providing information to citizens. In this instance the focus was made more precise by piloting it among municipal authorities with a relatively high degree of commonality.
2. The implementation project built upon an innovative but proven technology which had been refined within a pilot location.
3. The strategic aim was clearly defined and elaborated by setting a number of strategic objectives supported by a monitoring and measurement mechanism. This ensured that success was defined as quantifiable outcomes, not just good intentions.
4. The inclusion of expert partners able to take on the research, technical development and creation of management frameworks meant that the pilots were able to concentrate on developing and managing the CAS business process.

While it would be inaccurate to say iSAC6 generated any failures, it is clear from the comments in the Project reports and an examination of the history of the project that the project was for a few participants not as productive as they hoped for. The factors which are worth noting are:

1. Some partners engaged in the project in a way which implied they saw it as a research or feasibility activity rather than implementation. Consequently these partners found it difficult to frame objectives and measures aimed at specifying value and benefit achievement. For two of the partners this reduced the value they received from participation but was not entirely neutral. For Pilot 6, the regional Police force it was a fatal problem in that in the absence of clear objectives and expected benefits they were unable to justify continued commitment of resources and were forced to pull out.
2. The process of establishing a collaborative project which could successfully bid for EU or other public funding invariably contains a political dimension whereby it is necessary to ensure the consortium is appropriately balanced. There are good reasons for this requirement but the outcome is that it decreases the likelihood of having a single shared set of project objectives. For iSAC6 this was only a real problem at the formation stage of the project and was recognised as a risk by the large UK city authority which pulled out as a result. Other projects, as discussed elsewhere, have not been so fortunate and found themselves in serious difficulties as a result.

## **Considerations for further research and action**

One case study, no matter how successful, is clearly not a sufficient basis for recommending changes in the practice of IT Project Management of e-government projects. We do make some recommendations below with regard to good practice, and raise some questions about the way in which projects are initiated. We believe the iSAC6 case study does provide sufficient support to our observations to suggest that more comprehensive investigation of e-government projects to establish the degree to which there may be unique challenges and risks for which project managers and teams, and from there to identify whether changes in practice and management might improve levels of success.

Development and implementation of a robust and comprehensive Benefits Realisation mechanism was difficult but ultimately highly successful in maintaining focus on objectives and quantifying success. We suggest other public sector projects consider a similar approach and incorporate a benefits realisation framework into their project proposal. While the Standard Cost model may not

be appropriate to all projects, it is likely to be so for all those involving public service delivery and we recommend it be adopted in these projects.

Funding bodies such as the EU should consider whether the project proposal process is appropriate to the challenges of developing e-government services. The typical process of bringing together a varied consortium of interests may be counterproductive as it adds to the risk of over complexity and conflict. It would be wise to consider consortia which share a single business or service process and to require a set of aims and objectives for each participant as well as for the whole project.

### Concluding remark

Experience and research point to collaborative E-government projects in particular having a high failure rate. By looking at the experience of a successful collaborative e-government project, and examining areas of failure as well as success we have shown that many fundamental problems are generated at the beginning. Clear, well defined and measurable objectives based upon specific strategic aims are essential to the success of any project. This analysis demonstrates that this also applies to individual participants if the project is to avoid the challenges of dealing with multiple and possibly conflicting sets of objectives.

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