

Summer 10-6-2011

HOW CAN PUBLIC SECTOR ICT TRANSFORMATION BE INSTITUTIONALLY-ENABLED? A UK LOCAL GOVERNMENT STUDY

Panagiotis Panagiotopoulos

Tony Elliman

Guy Fitzgerald

Follow this and additional works at: <http://aisel.aisnet.org/ecis2011>

Recommended Citation

Panagiotopoulos, Panagiotis; Elliman, Tony; and Fitzgerald, Guy, "HOW CAN PUBLIC SECTOR ICT TRANSFORMATION BE INSTITUTIONALLY-ENABLED? A UK LOCAL GOVERNMENT STUDY" (2011). *ECIS 2011 Proceedings*. 219.
<http://aisel.aisnet.org/ecis2011/219>

This material is brought to you by the European Conference on Information Systems (ECIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ECIS 2011 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

HOW CAN PUBLIC SECTOR ICT TRANSFORMATION BE INSTITUTIONALLY-ENABLED? A UK LOCAL GOVERNMENT STUDY

Panagiotopoulos, Panagiotis, Department of Information Systems and Computing, Brunel University, West London, UB8 3PH, UK, Panagiotis.Panagiotopoulos@brunel.ac.uk

Elliman, Tony, Department of Information Systems and Computing, Brunel University, West London, UB8 3PH, UK, Tony.Elliman@brunel.ac.uk

Fitzgerald, Guy, Department of Information Systems and Computing, Brunel University, West London, UB8 3PH, UK, Guy.Fitzgerald@brunel.ac.uk

Abstract

Current work has highlighted the importance of institutional theory as a useful lens to examine how public systems, policies and actors both shape and are shaped by the environment within which they exist. Technologically-driven models of adoption fail to explain public sector reactions to ICTs and a growing number of studies have advocated that successful ICT adoption needs to be institutionally-enabled. This paper seeks to explore what an institutionally-enabled process actually entails and how it can be achieved for public sector technological initiatives. The efforts of two UK local authorities to promote public engagement online demonstrate how beneficial changes can be realised when institutional mechanisms manage to: (1) balance expectations, (2) involve key actors and (3) adapt to technological capabilities. Thus, it is suggested that the institutional approach can be useful in better positioning the potential of public sector ICTs within existing structures and expectations.

Keywords: Institutional Change, Digital Governance, Public Sector ICTs, eParticipation, UK Local Government.

1 Introduction

More recently, the impact of ICTs on public sector change has begun to be examined from the institutional theory perspective which views such initiatives as standing at the intersection between people, institutions and efforts of technology innovation (Orlikowski, Barley 2001). The momentum gained by this perspective in digital governance research has resulted in a number of contributions highlighting that public sector technological initiatives can barely be de-contextualised from their institutional settings (e.g. Barca & Cordella 2004; Lips 2007; Heeks & Bailur 2007). It has been advocated that the implementation of ICTs, and the changes such initiatives seek to achieve, needs to be more institutional and less technical in its planning. Effectively, such efforts become institutionally-enabled instead of technologically-driven (Lips 2007; Gasco 2003).

Although this concept seems particularly appealing, the theory, in relation to ICTs, has proved difficult to operationalise. Examining its practical meaning can contribute to better capturing the impact of transformational government and its conditions for success. In this direction, this paper seeks to explore the question:

- *What does institutionally-enabled integration actually entail and how can this be achieved in public sector technological initiatives?*

The empirical part of this research traces the efforts of two London authorities to enhance citizen participation in local affairs through online petitioning or ePetitioning. In both cases, institutional influences at different levels stimulated the use of those systems as complementary to traditional petitioning channels. The next section elaborates on the theoretical motivation of this study. Following the research approach, the two cases are presented and discussed.

2 The Institutional Study of Public Sector ICTs

According to Weerakkody et al. (2009) institutional theory offers a useful theoretical lens for studying public sector transformations. The term *Institution* is often perceived as a large formal organisation. However, from the theoretical perspective, institutions are not organisations, but the norms, structures, standardised behaviours or assumptions that are “taken-for-granted” within and across them. In policy studies, institutions are important in shaping perceptions of appropriate behaviours for involved actors, for example, by encouraging innovation and improvisation (Lowndes et al. 2006). Public organisations exist as part of institutional frameworks which are designed to be resilient in the sense that they should adapt to changing situations without compromising their principles (Lowndes & Wilson 2003).

When institutional changes are actually attempted, they seem to be a combination of accident and intention which is difficult to control or predict. Lowndes and Wilson (2003) note that (p.280): “... *Rather than being a technical exercise, institutional change is inevitably a value-laden, contested and context-dependent process, which typically throws up unanticipated outcomes.*” Thus, plans for institutional changes should be based on environmental adaptability rather than instrumental fit to particular functions, otherwise, institutional factors can make them almost impossible to accomplish. This statement might also explain why the potential of transformation-seeking technologies has proved inconsistent to achieve.

It is often assumed that advancements in ICTs will bring equally rapid changes in institutional structures; the evidence for this is debatable and indeed it may not be happening at all. Whatever is happening, changes tend to merge the old and the new in an evolutionary rather than transformational use of ICTs (Lips 2007; O'Neill 2009). What is more likely is that ICTs are just one of the variables that can affect the process of institutional change, but real changes can only come when this combines with managerial, and political elements (Meijer 2007). In this context, ICTs do not necessarily transform the public sector, but rather open routes for beneficial changes if relevant actors are motivated to recognise potential gains from new situations (Gasco 2003).

On this basis, a few studies have analysed emergent processes of ICT institutionalisation and identified the mechanisms that facilitated or impeded the use of new ICTs (e.g. Azad & Faraj 2009; Kim et al. 2009). Examining such processes can uncover why some aspects of public systems become adopted while others fail (Azad & Faraj 2009). For example, Kim et al. (2009) describe the case of the Korean anti-corruption system OPEN. In this case, adoption strategies were stimulated by a combination of different institutional mechanisms, such as political leadership to fight corruption, response to societal demand and regulatory enforcement from a higher authority.

Robey's and Holmstrom's (2001) study on a Swedish municipality suggests that institutionalisation can be a dialectical process where global pressures and local cultures may act together or conflict with each other. Identifying such forces can potentially lead to more realistic use of technologies. However, assessing the role of influences is not a straightforward process: both environmental effects and the potential benefits of technologies can in some cases be uncertain at the organisational level (e.g. Barca & Cordella 2004). Consequently, the outcome of new technologies and the corresponding changes become a reflection of endogenous initiatives at the organisational level responding to exogenous institutional modifications. Institutionally and technology-triggered changes interact and result in complementary processes. Davidson and Chismar (2007) analysed a clinical system where it was the cumulative influence of those changes that allowed the hospital to accomplish important benefits.

Considering the above points, realising benefits and eventually changes is related to the ability of achieving institutionally-enabled use of technologies. This concept seems to be a synthesis of three different elements: (1) the way institutional influences are understood and balanced (Robey & Holmstrom 2001; Avgerou 2001), (2) the involvement of key actors and the strategic initiatives that they might take (Kim et al. 2009; Lowndes 2005) and (3) the support offered by current mechanisms to technologically-triggered configurations (Gasco 2003; Davidson & Chismar 2007). Overall, the concept suggests that institutional design of technologies should not only be based on the specific functions (or the technical problems) with which they are expected to fit, but also on the institution's environmental adaptability (Lowndes & Wilson 2003). Environmental adaptability is based on adherence to institutional principles and usually aims to cultivate trust and promote adaptation by learning instead of control.

This background clarifies the concept of institutionally-enabled integration in theory, but still leaves its practical implications unclear. The next section introduces the empirical part of this research.

3 Research Approach

To empirically explore the concept of institutionally-enabled integration, a qualitative case study strategy was adopted. Two cases were selected based on theoretical replication logic (Yin 2009). The first study was conducted between January and July 2010 with the Royal Borough of Kingston (LBK). The unit of analysis was LBK's ePetitioning initiative which had been operating since 2004. The second study was conducted with the London Borough of Hillingdon (LBH) from June 2010 to March 2011. LBH implemented ePetitions in December 2010.

The primary source of data collection was semi-structured interviews with a wide range of stakeholders involved in the ePetitioning initiative. This included: (1) officers from the Democratic Services department who are mainly responsible for the petitioning process, (2) managers from other involved departments, (3) councillors from the main political parties, (4) the service provider and (5) other local politicians and chairs of community organisations. Most interviewees had initiated at least one petition within the last year. Overall, nineteen interviews, lasting between 20 minutes to almost two hours, were conducted. The interview agendas followed stakeholders' particular involvement. For example, officers were asked about the system administration and petitioning process while politicians were asked about the process benefits and the online component effects. Interview data were supported by material concerning the system's use (e.g. statistics) and the institutional background (e.g. council strategies, consultation documents). Data analysis was performed in two stages: a within-case analysis followed by a cross-case synthesis (Yin 2009). The next section presents the two cases.

4 Case Studies

The LBK is located in the south-west part of London with a population of about 165,000. It is a reasonably wealthy area which has one of the highest Internet usages in the country. The LBH is a larger Borough in the west part of London with a population of about 250,000. Both authorities are part of the London Councils local government association. LBK was one of the first English local authorities to experiment with an online petitioning service in 2004 through its involvement with the Local E-Democracy National Project (2005). This national project considered across the UK many different eDemocracy applications (e.g. forums and webcasts). EPetitions, led by the LBK and also piloted by the Bristol City Council, were expected to compliment traditional petitioning to the authorities and examine the impact on the process.

According to legislation introduced in 2009, all English local authorities: (1) were expected to provide an ePetitioning facility by December 2010 and (2) had a duty to respond to citizen petitions, normally by organising a public hearing of an appropriate decision-making body where the petition can be presented and discussed, e.g. in a neighbourhood committee. This legislation followed the success of the pilot applications in the LBK and Bristol, as well as the fact that a few more authorities were had already considered this initiative. In both cases examined here, paper petitioning was an established channel to address the council before the introduction of the online component. In the LBH, providing the ePetitioning activity was a response to the statutory requirement. The authority was in the process of installing a new intranet which, with small modifications, could offer the ePetitioning functionality. As part of the intranet, this feature could connect the petitioning management with the rest of the council's internal operations. As a result, it could facilitate communication between the different departments involved in the response process; it also offered the opportunity to easily set-up alert services for councillors.

An ePetitioning website is a space where users can create petitions, sign petitions created by others and view the outcome of previous petitions. In both authorities, topics raised by petitions concern all the authority's functions and responsibilities, e.g. parks, street maintenance, recycling and bus stops. Petitioning issues might concern only a few streets or the whole borough. The LBH authority distinguishes between three types of petitions: planning, licensing and cabinet member; the latter consists of all topics not related to planning and licensing applications. An average of 250 petitions per year was received by the authority during 2006-2010. The LBK has some long experience of ePetitioning with the website, since 2004, having handled more than 70 petitions in addition to more than 110 paper-only petitions in parallel. Many ePetitions were directly organised by local representatives or community organisations.

In both cases, the response process to ePetitions is similar. The Democratic Services department coordinates the process, from providing drafting assistance to organising the Petition hearing meeting. At the drafting stage and also while the petition is open for collecting online signatures (usually for a few weeks or months), officers handle the petition topic by: (1) collecting and posting previous related background information, (2) consulting other council departments (e.g. Legal Services or Planning Applications) and (3) notifying involved members of the council about the petition and the response process details. Other local organisations, such as the police, might also be consulted or asked to participate in the process. After the petition hearing, feedback is provided to the petitioner(s) and published; the petition status and the different stages are also visible online. Paper petitions, after being received, are handled in a similar way. The response process for paper petitions takes longer since there is usually no advanced warning about their existence.

More information on the LBK study can be found in (Panagiotopoulos & Al-Debei 2010). The ePetitioning studies are indicative examples of how public authorities can institutionally-enable ICTs for engagement in governance activities. The analysis below provides some insights on how and to what extent this was achieved.

4.1 Setting the institutional grounds

According to Avgerou (2001), the institutional environment does not necessarily act as a barrier to the introduction of new ICTs, but rather frames the risks and opportunities associated with their use. Looking at how macro-institutional influences were perceived leads to consideration of the conditions that initiated the two projects and the factors that influenced their implementation (Kim et al. 2009).

When this activity of the national eDemocracy project started in 2004 the “citizen e-engagement” norm was an innovative addition to the developing eGovernment idea. Also responding to societal demands, it was realised that advances in ICTs could have a positive effect on broad governance processes. LBK’s ePetitions were actively supported by the central government which funded the national programme and arguably considered this activity its leading experiment. In turn, the project’s perceived success facilitated the regulatory change by acting as a kind of “*best-practice*” that guided the 2009 legislation. In fact, the consultation for implementing the ePetitioning mandate encouraged a mimetic mechanism for other local authorities, which was nevertheless not binding in its details. The 2009 legislation introduced a dual novelty: before it many authorities did not even have a sustainable petitioning scheme in place. After it, not only did they have a duty to respond to petitions, but they also had to make the response process clear and explicit, including the online facility. In the LBH, the ePetitioning implementation followed the regulation’s mandate and timescale, although it was probably an idea which the authority would have considered sooner or later, given its positive experience with traditional petitioning and the acquisition of facilitating technology (the intranet).

4.2 Configuring institutional mechanisms

Unlike other popular ePetitions organised ad hoc by Internet users, receiving petitions for the English councils is a *formal* process. The well-developed experience in the LBK helps us understand why institutional responsiveness is vital to the success and sustainability of such activities. The online channel supports the existing petitioning practice. Although the core of the petitioning process remains almost the same, the website enabled some new interesting features. With ePetitions, the pre-submission and drafting stage, apart from ensuring that the petitioning topic is within the authority’s remit, also provides advanced warning to responsible officers. It also allows them to prepare and post online background information related to the topic. While the petition is at the collecting signatures stage, there is sufficient time for public hearing arrangements to be finalised. The hearing is a decision-making event which determines the petition outcome. It connects the online with the offline process and grants a deliberation space where petitioners and decision-makers can engage in public dialogue. Publishing the outcome and all related information online ensures the transparency of the process and increases the visibility of all petitioning stages.

Overall, the process provides a consistent mechanism that is flexible enough to account for all the different petition topics. Although this process is organised and managed by the council, petitions themselves are led by citizens who are enabled to gather around single interest issues in a convenient way. The activity is manageable by the authority regardless of the scale (number of signatures) and can be sustained even with an increase in the volume of petitions due to the ease of coordination provided by the website. In the LBH case, similar gains seem to be emerging. They are complemented by the website being directly connected to the council’s intranet. This feature is expected to facilitate internal communications and accelerate the response process while ensuring that other involved entities are efficiently alerted.

Following Davidson and Chismar’s (2007) study, it is interesting to point out how institutional and technological changes interacted and complemented each other. The system’s enactment within the council processes evolved as an environmental adaptation exercise which enforced the authorities’ public participation values (Lowndes & Wilson 2003). The involvement of influential local actors also contributed to the institutional adjustment process.

4.3 Involving key actors

ePetitions assisted in reinforcing the community leadership role of elected representatives. Quite a few councillors were eager to promote the initiative by commencing or openly sponsoring petitions. In this way, they found a means to promote their role as facilitators of public dialogue. In the LBK, political initiative by councillors from both the main local parties helped overcome resistance from a minority who considered the online aspect to be unnecessary in 2004.

Political leadership was also a decisive factor in the system's first period of use. The pilot activity of the national project was chaired by a LBK councillor who envisioned the system integration process. As Kim et al. (2009) note, official leadership can truly facilitate the institutionalisation processes. In turn, public managers seized the opportunity to show improvements in their role by facilitating the system implementation. The mediating role of the civil service remains critical to the response process since it ensures coordination between the involved entities (politicians, petitioners, council and the public). It also led to ongoing configurations in the implemented technology, for example by considering new functionalities for future upgrades. Overall, the combined efforts and involvement of public officers and politicians were prominent to the perceived success of the initiative: they shaped a suitable environment where, for citizens, it was clear how they could engage with their council and what were the potential outcomes of this engagement (Lowndes et al. 2006).

5 Concluding Remarks

This paper was motivated by the institutional studies of public sector ICTs and their suggestions for accomplishing institutionally-enabled use of technologies. Previous work led to a synthesis of this concept as an effect of: (1) balancing environmental influences, (2) adapting institutional structures and (3) involving key stakeholders. The two local government cases examined guided the practical examination of the concept through a popular citizen participation activity which they organised. In those cases, established institutional mechanisms co-evolved with new technologies and laid the ground for accomplishing benefits to the existing process.

If the petitioning process was already well-established as an institutional norm, is there any real evidence of transformation? The answer is positive from the point of view that citizens gained access to an ICT-facilitated institutional path for setting the public agenda. No major organisational changes were necessary for this to be achieved. The system demonstrated positive impact to the process both from the citizen and the authority perspective. The pilot initiative success in the LBK was one of the motives for the national regulatory change. In turn, this change not only advocated the development of ePetitioning websites by other English local authorities. It came with the duty to design a corresponding institutional process for responding to petitions, regardless of the online component. This institutional change critically didn't challenge the norm that "*a petition requires some sort of official response*", rather it built on it to formalise what was acceptable as a response mechanism.

The implications of this study, although bounded by the UK local government context, add to the value of the institutional perspective in digital governance research. Its analytical potential is useful as a theory which can show *why* things are happening in public sector ICTs (Heeks & Bailur 2007). From the practical point of view, policy makers can be advised to look carefully at their institutional environment and diagnose sources of potential resistance and emerging opportunities. Following this analysis, they should think first of adapting institutional mechanisms to new technologies and then about their functional fit. In the cases examined here, the alignment was a combination of serendipity and planning. This achievement is indicative of how an understanding of the institutional norms has the potential to identify a path of least resistance, and then exploit it to accomplish the desired change. It can thus provide a useful direction as to how institutionally-enabled use of new technologies can be achieved. Having clarified some of the aspects that it entails, through the retrospective case analysis, a more systematic examination of the prescriptive aspect of this concept indicates an interesting direction for further research.

Acknowledgements

The authors gratefully acknowledge interview participants from the two case studies. Special thanks to Mary Reid and Ann Sweeney from the LBK and Nikki Stubbs from the LBH for significantly facilitating the research process.

References

- Avgerou, C. (2001). The significance of context in information systems and organizational change. *Information Systems Journal*, 11(1), 43-63.
- Azad, B. and Faraj, S. (2009). E-Government institutionalizing practices of a land registration mapping system. *Government Information Quarterly*, 26(1), 5-14.
- Barca, C. and Cordella, A. (2004). Seconds out, round two: Contextualizing eGovernment projects within their institutional milieu - A London local authority case study. In *Proceedings of the 13th European Conference on Information Systems*, Turku, Finland.
- Davidson, E. J. and Chismar, W. G. (2007). The interaction of institutionally triggered and technology-triggered social structure change: An investigation of computerized physician order entry (CPOE). *MIS Quarterly*, 31(4), 739-758.
- Gasco, M. (2003). New technologies and institutional change in public administration. *Social Science Computer Review*, 21(1), 6-14.
- Heeks, R. and Bailur, S. (2007). Analyzing E-government research: Perspectives, philosophies, theories, methods, and practice. *Government Information Quarterly*, 24(2), 243-265.
- Kim, S., Kim, H. J. and Lee, H. (2009). An institutional analysis of an E-government system for anti-corruption: The case of OPEN. *Government Information Quarterly*, 26(1), 42-50.
- Lips, M. (2007). Does public administration have artefacts? *Information Polity*, 12(4), 243-252.
- Local E-Democracy National Project (2005). *Barriers to E-democracy: Local government experiences and responses*, Local E-Democracy National Project.
- Lowndes, V. (2005). Something old, something new, something borrowed... *Policy Studies*, 26(3), 291-309.
- Lowndes, V., Pratchett, L. and Stoker, J. (2006). Local political participation: The impact of rules-in-use. *Public Administration*, 84(3), 539-561.
- Lowndes, V. and Wilson, D. (2003). Balancing revisability and robustness? A new institutionalist perspective on local government modernization. *Public Administration*, 81(2), 275-298.
- Meijer, A. (2007). Why don't they listen to us? Reasserting the role of ICT in public administration. *Information Polity*, 12(4), 233-242.
- O'Neill, R. (2009). The transformative impact of E-government on public governance in New Zealand. *Public Management Review*, 11(6), 751-770.
- Orlikowski, W. J. and Barley, S. R. (2001). Technology and institutions: What can research on information technology and research on organizations learn from each other. *MIS Quarterly*, 25(2), 145-165.
- Panagiotopoulos, P. and Al-Debei, M.M. (2010). "Engaging with citizens online: Understanding the role of ePetitioning in local government democracy", *Internet, Politics, Policy 2010: An Impact Assessment*, St Anne's College, University of Oxford 16-17, September 2010.
- Robey, D. and Holmstrom, J. (2001). Transforming municipal governance in global context: A case study of the dialectics of social change. *Journal of Global Information Technology Management*, 4(4), 19-31.
- Weerakkody, V., Dwivedi, Y. K. and Irani, Z. (2009). The diffusion and use of institutional theory: A cross-disciplinary longitudinal literature survey. *Journal of Information Technology*, 24(4), 354-368.
- Yin, R. (2009). *Case study research: Design and methods* (4th ed.). California: SAGE.