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E-GOVERNMENT IN THE MAKING: SOCIO-ECONOMIC DEVELOPMENT IN THE AKSHAYA PROJECT

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ABSTRACT

This paper discusses the Akshaya E-Government project. The paper uses general concepts borrowed from actor network theory to discuss the ongoing negotiation that shapes E-Government projects. We aim at shedding light on the importance of the dynamic interactions that shape the impact of ICT on government polices. In particular, we show that the nature of the service delivered and the socio-economical development supported by the project are constantly shaped by the negotiation that occurs among the different actors involved and the consequent changes the project itself experiences. We therefore suggest to study e-Government in its making and not as results of planned action and sequential evolutionary phases.

1 INTRODUCTION

E-Government projects are intrinsically embedded in combinations of political reforms and organisational changes designed to enact, support and drive a profound transformation in the organisation of the public sector. Research in the field has so far prioritised the study of the effects of information and communication technology (ICT) as a shortcut to increase public sector efficiency and improve internal administration and management capabilities (Andersen 1999; Chadwick et al. 2003; Dunleavy et al. 2006), thus downplaying the importance of the dynamic interactions that shape the impact of these projects and their effect on the values and institutions that underlie democracy (Cordella 2007; Dawes 2009; Fountain 2001). Accordingly, ICT in the public sector has been mainly discussed as an enabler to help create new and better service delivery (Bekkers et al. 1999) by increasing efficiency and transparency, and improving accountability in public administration procedures and management (Dunleavy et al. 2005; Gupta et al. 2008; Heeks 2002). By making government more accountable and transparent through this process of information rationalisation, e-Government is very often conceived as a powerful instrument to achieve the public administration reforms envisaged by the New Public Management (NPM) ideology (Barzelay 2001; Cordella 2007; Hood 1991). NPM proposes a project of reforms to redefine managerial and governance practices in the public sector in line with objectives typical of market economics (Osborne et al. 1992). This radical change in the logic underpinning the organisation and governance of the public sector is associated with a fundamental change in the factors that count for assessing the action of the public administration, not least a shift from effectiveness to efficiency (Pollit et al. 2004). The most evident transformation proposed by NPM is to promote a management culture for the public sector that, as in the case of the private sector, becomes results driven, where the managerial efficiency supersedes the need for effectiveness in the delivery of public services (Self 2000). NPM provides a major set of ideas on which so many of the current e-Government initiatives are based (Chadwick et al. 2003; Hammer 1990). ICTs have in fact become one of the most common solutions implemented to standardise work procedures and smoothen information flows, to make overall organisational processes more efficient and transparent, leading therefore to the changes prescribed by NPM (Dunleavy et al. 2006; Heeks 2002).

The e-Government literature has discussed the development of these policies by looking at models of e-Government development which essentially consider ICT as an enabler. The evolutionary/revolutionary model for e-Government development proposed by Layne & Lee (Layne et al. 2001), for example, identifies four stages of evolution in e-Government. Along the same lines, the United Nations and the American Society for Public Administration (APSA 2002; UN 2001) recommend a five stage e-Government development model which both similarly propose that a more advanced ICT development scheme leads to a better and more efficient organisational performance.

An alternative perspective for the study of the effects of technology on public sector reforms comes from those studies that have looked at the social, political and institutional dimensions of e-Government projects (Bozeman et al. 1986; Brewer et al. 2006; Dunleavy et al. 2006; Fedorowicz et al. 2007; Fountain 2001; Gil-Garcia et al. 2005; Luna-Reyes et al. 2005). Building on this theoretical slant we want to discuss more in depth the relationships between technology, users and socio-political change looking at e-Government projects as undergoing processes of reform. Building on actor network theory (ANT) we consider technology, users, and socio-political change intertwined in recursive processes of change that shape and re-shape all these factors. We therefore propose to consider e-Government projects as evolutionary processes of change rather than a predefined path of change as often discussed by NPM reform projects.

2 THEORETICAL FRAMEWORK

A large number of IS studies based on actor network theory focus their attention on the relationships between information technology and its user. The ANT analytical lens allows different approaches to study these relationships while looking at information technologies. They are, for example, studies looking at how specific inscribed characteristics of actors affect a chosen actor-network. These studies consider inscription as: the activity of "designers" who define "actors with specific tastes, competences, motives, aspirations, political prejudices, and the rest, and assumes that morality, technology, science, and economy will evolve in particular ways" Akrich (1992). In this tradition, Monteiro and Hanseth (1996) discuss the role of standards in the shaping of large information systems. The same authors (1995) examine the effects of standards on the achievement of flexibility in the actor-network that shaped the TCP/IP protocol. Timmermans and Berg (1997) analyse how medical protocols affect the contingent practices of medical intervention, and Bowker and Star (1994) discuss the effect of using the International Classification of Diseases within different actor-networks.

However, an alternative use of actor network theory can be undertaken to analyse the process that shapes and possibly, but not necessarily, stabilizes an actor-network. In this case, the focus is not on the study of the effects that specific actors have on the black-boxing of inscriptions in an actor-network, but rather on the interplay analysis taking place in the actor-network that can, but not necessarily, result in a black-boxed relationship (Cordella 2009). According to Lanzara (1999), rather than "opening the black-box" to study the process that made it stable, it is opportune to "track the process *before the box actually gets closed"* if it indeed ever gets closed. Following this tradition, we want to study e-Government projects in the making, rather than in their hypothetical crystallised forms as for example suggested by stage model analysis (Layne et al. 2001). Indeed, our focus is on the relational process that generates specific and contingent outcomes of e-Government policies.

As discussed above, actor network theory has been utilised to analyse in detail the effects of black-boxed hybrids in the development of specific settled arrangements in actor networks (Bowker et al. 1996). However, the same theory has been proposed to explore "the terrain of the politics of science in action" (Bowker et al. 1996).

By looking at how the different technological and human factors shape and are shaped in the deployment of e-Government policies, we provide a more in depth understanding of the complex process of "making" e-Government. As the case will show, the outcome of the e-Government initiative we studied has been shaped by the various actors involved so that the path of deployment has not been as linear and intentional as initially predicted. Moreover, the changes in the outcomes have had a recursive effect on the ongoing interactions among the actors involved. This has therefore changed the role of the various actors in the process, making the e-Government initiative a recursive process of change, where actors and outcomes are intertwined in an imbricate ongoing process of change, putting the e-Government project on a non predictable trajectory rather than having a fixed target that is to be achieved.

3 RESEARCH METHODOLOGY

We used an exploratory case study approach (Yin 1993) to research the dynamics underpinning e-Government projects. Access has been given to the authors to study one specific project and its evolution, so that this unit of analysis has, since the beginning, defined the object of the case study (Yin 1994). Following the explanatory case study approach, fieldwork, and data collection have been undertaken to identify the main aspects of the case prior to definition of the research questions and hypotheses. On the basis of qualitative data analysis and collection we have been able to formulate our research interest, which has resulted in the study of the dynamics that shape e-Government projects. To explain these dynamics we have looked towards actor network theory as an analytical lens to explain these dynamics. To analyse these dynamics we needed to develop a deeper understanding of implicit and explicit cultural and social processes, as well as of the roles of people and technologies in

the shaping of the actor network relations. Case study research is the most suitable approach to examine a phenomenon in its natural settings (Benbasat 1984) and therefore the ideal vehicle for gaining a deeper understanding of the social, technical, social and political factors that shape actor networks (Bloomfield 1991).

Data was collected over a seven day period in July 2007. The authors spent two days in Trivandrum, Kerala, then three days in Malappuram, Kerala, followed by another two days in Trivandrum. The goal was to collect data from a number of different actors of the project. For this reason interviews were conducted in the KSITM (Kerala State Information Technology Mission) in Trivandrum as well as in the Malappuram district telecentre project office. The data collection was done via semi-structured interviews. All interviews were conducted face-to-face and lasted between thirty minutes and two hours. The interviews were not voice recorded. In most cases, two other researchers attended the interviews. One of these researchers spoke the local language, Malayalam, and acted as an interpreter. The problem-centred interview method by Flick (2006) was used. The authors started the interview with general questions that broadly address the question area ("conversational entry" (Flick 2006, p. 86)). Then, the questions became more specific with the goal of extracting further material ("general prompting" (Flick 2006, p.86). In addition, via "specific prompting" (Flick 2006, p. 86), the authors tried to deepen their understanding via questions of comprehension and by confronting the interviewee with possible contradictions and inconsistencies in his statement.

4 CASE STUDY

Akshaya is the name of a telecentre project in the state of Kerala, South-West India. This project was chosen as the case study for three reasons. Firstly, the project doesn't focus on telecentres in a narrow definition, but promotes the telecentres as being MCTs ("Akshaya centres [are] to work as social and economic catalysts for the overall development of the society" (KSITM 2006, p. 32)), not only offering services but also being a part of the local community (KSITM 2006). This differentiates the project from similar ICT-for-development concepts. Secondly, the project is an ongoing programme. In the course of the authors' research in Kerala during the summer of 2007, the project was in its third major roll out phase. Since the project launch in 2002 there have been a number of subtle changes in direction, making the project interesting to study due to its dynamic constitution. Thirdly, the project location in the state of Kerala makes for an interesting setting. Kerala has a very high literacy rate (approx. 91% (KeralaStateGovernment 2007b)) and a very good infrastructure (there is a hospital facility in nearly every village) (KeralaStateGovernment 2007a; KeralaStateGovernment 2007b). On the other hand, the GDP is low in comparison to neighbouring states. Kerala also has a history of sustained public action as well as the state government being very active in pushing ahead social welfare, land reforms and legislation for the labour market (Madon 2005). Kerala's development model in combination with the high literacy rate and also high rate of unemployment allow for a multi faceted analysis.

Kerala state has 14 district councils (panchayats), 152 block councils and 991 village councils. Most of the state funds are spent via this three tier institutional system. In 1999, the state set up the Information Technology Mission Group to discuss where ICT can be used in order to benefit citizens. In April 2002, the hundred village councils of the Malappuram district in Kerala made a proposal to the Kerala IT Minister to introduce district-wide computer literacy training. The state administration agreed, and the project was launched on 18th November 2002 by the president of India (IITB 2005). The KSITM in Trivandrum, the capital city of Kerala (approx. 400km south of the Malappuram district), was responsible for the project management in cooperation with a local project office and the village and block councils. No house in the district was located further than 3km away from a telecentre. The decision to undertake a telecentre project with the goal of creating an institutionalised framework within which the project can evolve was reached by the state government, KSITM, and the district council. At that time, it was not yet decided what additional services should be offered in the long term. Towards the end of the e-literacy phase the strategy was reviewed and different opinions

discussed, resulting in the plan to implement internet access and to develop further services by KSITM.

The KSITM embarked on a promotion campaign to make the project known to a wide range of people in the district by briefing local media, having press releases, advertisements, and promoting awareness through local cable TV channels. In addition, high profile citizens from the community where invited to attend telecentre openings. A big communication effort was required between different participants, in order to set up the first centres. More than 600 meetings took place. Not only the (local) government, but also political parties, religious leaders, social workers and civil service organisations had to be "convinced" of the value the project had. People were trained as "social facilitators" to help integrate the centres into the local community.

During the initial project phase (later to be known as *phase one*), each of the initial 505 telecentres was responsible for around 1000 families. Telecenters had been run since the very beginning by private entrepreneurs. The entrepreneurs were selected jointly by project staff and local councils. The entrepreneur was responsible for running the kiosk (each kiosk contains approx. five to ten computers) and for carrying out the electronic literacy (e-literacy) training. KSITM worked together with banks to provide a loan to the entrepreneurs to meet their initial funding needs.

The initial goal was to make one person in each household "e-literate", by successfully complete a computer based training courses in the telecentre. The course consisted of a 15 hour training scheme to be delivered within 10 days. The training CD included games and other multimedia content to make first time computer users feel more comfortable with the equipment. The training programme was developed by the Centre for the Development of Imaging Technology. The development costs for the training programme, content development, and miscellaneous activities were borne by the state and local governments (The Department of Information (Technology 2004)). The training was state-subsidised: 75% of the training charge was borne by the government at local/district level. Profits from the e-literacy training allowed the entrepreneur to recoup around 45% to 50% of his initial investment into the telecentre (The Department of Information Technology 2004, p.30). The training programme had also been conceived as a process through which local families got in touch and familiarised themselves with the telecentre and its owner to create the basis for stable and long lasting relationships between the telecentre and the local community.

The e-literacy phase of the project lasted until December 2003. As the e-literacy phase ran out, KSITM was looking for further services to be offered in the telecentres. Just offering computer training was not enough to make the telecentres financially sustainable. In late 2003, the KSITM Director was appointed as the District Collector (highest ranking government official) of Malappuram. It was hoped that this would facilitate decision making on state and local government levels on the future development of the project.

In the following year, KSITM developed further training programmes as well as considered local content development. In February 2004, e-literacy training was completed in the entire Malappuram district (Pal *et al.* 2005) achieving one of the main goals of the project. As a further step, in this period, Internet connectivity for all telecentres (via a special antenna with Wireless Local Loop technology) was scheduled for January 2004, but due to technical difficulties it was implemented in August 2004 (IITB 2005). In April 2004, a new training programme was introduced called "E-Vidya" which taught basics in word processing and spreadsheets. The entrepreneurs were allowed to charge citizens a basic amount for using this training software (The Department of Information Technology 2004, p.30). This training programme helped many entrepreneurs to stay in business providing services even if the internet connectivity was not yet available. It also guaranteed a new source of income needed to cover the extra costs that the implementation of the internet connectivity had inflicted on the telecenters. Internet connection will increase the sunk costs of the business generating pressure to improve the sources of income. This has given the telecenter entrepreneurs an additional incentive to look for other opportunities to increase their revenue streams so to cover the increased basic costs of the business. In December 2004 it was decided to roll out the project in seven additional districts of Kerala (*phase*

two). Given the positive responses of the Malappuram district, it became the pilot district for future developments.

In 2005, an electronic payment system for government bills, "E-pay", was launched as pilot in the Malappuram district, and later in the other districts. E-pay is the umbrella term for an online transaction platform developed by the KSITM and the State Bank of India. Citizens are able to pay their electricity and telephone bills, as well as various local government taxes at the telecentres. Revenue streams for telecentre entrepreneurs were now more varied, ranging from internet related services (web surfing, chatting, email) to IT tuition for school children and printer usage. A number of telecentres also offer additional services (i.e. photocopying). Some entrepreneurs ran social events in their centres, for example women and kids clubs. According to one of our interviewees, on average, the telecentres generate income as follows: 40% from computer training courses, 30% from the e-pay application, 15% from browsing/chatting and 15% from other activities. Similar data was reported by the entrepreneurs, with training courses contributing as much as 75% to the total revenue. The biggest costs for the entrepreneurs are electricity, facility rent, loan repayments for the computer equipment and salary for the assistants who help to run the training courses. Most entrepreneurs have another job parallel to running the telecentre, as it does not yet provide a stable source of income. In July 2005, the official roll out phase in the other districts in Kerala started, and more entrepreneurs were selected (Kuriyan et al. 2006). In 2007, the roll out commenced in the remaining six districts of Kerala (phase three). At this time, most of the unsuccessful telecentres opened in phase one have closed down, while the centres which are currently active are now financially sustainable. This makes clear that financial sustainability is possible even if it is difficult to be maintained. The government drivers are in fact not able to provide the needed income to make a centre sustainable. The entrepreneur needs to develop parallel forms of income to make the centre survive and flourish.

Financial sustainability has never been the primary driver for KSITM. The term sustainability was only mentioned by the KSITM interviewees after the authors asked them about it. However, sustainability has always being implicitly considered even if in different way by the different actors. At the beginning of the project, for KSITM e-literacy training was not just technical training, but the aim was to make citizens familiar with the computer and to provide them with information about what a computer can be used for. In this way, as confirmed by one interviewee, sustainability meant that "people should be able to use the technology effectively on a long term basis". For others sustainability meant being able to successfully improve the livelihood of the citizens on a long term basis. One interviewee also stated that to achieve sustainability it is also important to implement e-Government applications, because "the citizens demand it". As reported by multiple KSITM employees, the goal of the project is the "effective dissemination of ICT to a grass roots level", and the "empowerment of the citizens". These overarching definitions show that precise project goals were not fixed in detail from the start.

At the time of the study (July 2007), no services by private organisations were offered though the telecentres. In the future, a central distribution of private services via KSITM is planned. The development of software packages is not carried out by KSITM, but is outsourced to a total service provider (TSP). New services are being implemented (video on demand, blog and chat functions), with roll outs of new services often starting in one specific district. In addition, further course training programmes will be introduced - according to one KSITM employee, there is a lack of specific training programmes for minority groups.

Entrepreneurs regularly meet with each other on local and district level, and liaise with the local agricultural extension officer. Many entrepreneurs communicate with the local council on a regular basis. According to one interviewee, both parties benefit: While entrepreneurs get information about new telecentre services from the council, they in turn can give out statistics that the council doesn't have, like data on the number of blind people in the village. A farmer reported that although he doesn't yet use certain telecentre services, he nonetheless considers it beneficial to regularly meet other farmers in the telecentre to exchange information.

5 ANALYSIS

Over a time span of several years the Akshaya project has evolved and changed. From the initial remit of the project to its current state, the interactions among the participants have changed the goals of the project over the years. This chapter will attempt to use the narrative of the case as described above to highlight the non-linear development of the project and to use ANT as analytical lens to illustrate how the roles of actors, both human and non-human, are intertwined such that the development of the e-government initiative is shaped on an ongoing basis. The following actors will be explored in the subsequent analysis: KSITM, the entrepreneurs, the citizens, and the district councils. In so doing, we will discuss how the different actors involved in the project have affected and have been affected by the reciprocal interactions that have shaped the project.

5.1 Government Policy: The Beginning

In 2002, the Malappuram district wanted to make the citizens of the district e-literate, hoping that e-literacy could be a good foundation for offering ICT-enabled citizen services in the future. The request for training was initially cued by the low unemployment rate in the district as well as the hope that e-literate citizens would use ICT to improve their livelihoods. The entrepreneurs were responsible for the financial sustainability of their centres, so a big emphasis was placed on social entrepreneurship. At this point, the government in the form of KSITM had set out an initial project goal. A quasi government policy was acknowledged as the project was officially started by the president of India: Every household in Malappuram should be made e-literate. Even if KSITM has unfolded a project plan which well reflected these intentions, the actual implementations are the result of negotiations, so that the outcomes are neither fixed nor perfectly reflect the initial goals. Many different relevant actors now have joined the project, and deviating streams of action by prospective actors had to be confined.

5.2 Policy Shaped By the Entrepreneurs

The involvement of the entrepreneurs touched on a number of issues. They had to gain a clear benefit for themselves, but also to fully support the government goals behind the telecentre project. This led to two-sided pressure for the entrepreneurs: they have to both achieve financial sustainability and achieve the social development goals of the project. The involvement of the entrepreneurs was realised through multiple meetings, were the government representatives openly discussed the project with the entrepreneurs, creating a collaborative context where prospective entrepreneurs could ask questions and find the needed answers. Many entrepreneurs worried about the financial implications of participating in the project. However they found strong support by the fact that entrepreneurs would take part in a government project, thus being able to use the government brand name “Akshaya” in order to gain prestige, respect, and therefore create the bases for a sustainable business. Some entrepreneurs, especially in phase two, were primarily interested in making their centre financially sustainable. At the beginning, it was difficult to align the entrepreneurs to the overall strategy, because KSITM did not review the centres’ status on a regular basis. A grading process was introduced only at a later time. Accordingly, although the district councils monitored the centres, KSITM didn’t get exact information about the entrepreneurs’ actions. This was part of the plan since the entrepreneurs were encouraged to adjust to local conditions. On the one hand, this led to many centres being integrated into the local community, with citizens trusting the entrepreneur. On the other hand, entrepreneurs also followed their own interests, which may not have been in line with the initial social goals of the KSITM strategy. For example, many entrepreneurs placed an emphasis on the training courses, as this is an easy way to making financial revenues. Other entrepreneurs ran social events in their centres, for example women and kids clubs once again to integrate the financial income of the activity .The “e-krishi” service (which was rolled out at the time of study) functions as an online interaction and information hub for farmers which turns the telecentre into a social space, with farmers meeting in the centre on a regular basis. New citizen services are offered to satisfy local needs while others are made available almost everywhere to provide citizens with easily available services such has options for

buying online train tickets. One entrepreneur stated that even if there would be no help from the government, he would still try to run the kiosk. On his own initiative, he tried to conceive a number of services that his telecentre could provide. During the financially difficult phase one, he started to compile a telephone and address book ("information directory") for people living in his catchment area, and sold it. He also provided hardware and software support. He considered himself an important part of the social structures of the village and felt a responsibility to utilise his telecentre to provide community services. Many of the services and the nature of the project itself have therefore been shaped by the action of the entrepreneurs aimed at maximising their income given the needs of the local community they serve and the potential financial benefits they identified.

5.3 Policy Shaped By the KSITM

Twenty people work for the KSITM, and the Akshaya project is run out of the "IT and people" department of the KSITM. It is however also closely affected and influenced by other government departments. According to one employee, the coordination between the government agencies is based on informal discussions and meetings. This leads to difficulties in setting up a structured communication flow between KSITM and other government departments at state level (i.e. the agricultural department). Most of the feedback the KSITM gets on the project comes from informal comments, though the media, and via meetings on district, block and village level. The media have played a very important role to facilitate citizen engagement. KSITM often relied on the media to facilitate the diffusion of information about the project. Many newspapers reported, and district council meetings further helped to spread the information. However, many people had no idea about how the centres could benefit them personally. The e-literacy phase of the project was designed to involve all citizens and make them aware of the possibilities offered to them by the project. KSITM also utilised "social facilitators", who assisted in spreading the idea and explaining the advantages of the telecentres. Akshaya was promoted by the government. Since the very beginning it was made clear the project was not a private enterprise endeavour, knowing this would have made many citizens sceptical about the project. The initial involvement of citizens was not disturbed by diverging inputs of other alien actors, as Akshaya just offered e-literacy training to begin with. Other services were added later keeping citizens involved in the interaction with the centres over a longer time span. In addition, entrepreneurs were encouraged to promote the Akshaya brand so that citizens acknowledge the link with the government and fostered the public goal of making an e-literate society.

Understanding the struggles many entrepreneurs faced in finding the balance between the social goals of the project and the need for financial sustainability, KSITM changed the entrepreneur selection process, trying to find entrepreneurs who would be both entrepreneurially savvy and support the social development context at the same time. Hence recruiting new entrepreneurs was preferred over further negotiations with the "unsuccessful" entrepreneurs.

The KSITM "learned lessons" after each project phase, and tried to adjust the roll out strategies for the subsequent phases. Firstly, after phase one, the number of kiosks per locality was decreased. Secondly, a much quicker internet connectivity for the kiosks was provided. Thirdly, the procedure for selecting the entrepreneurs was changed. After phase two, the selection procedure for the entrepreneurs was changed yet again.

The government action has been mediated by the complex internal and external interactions which have required changes in the unfolding of the project. The project has initially focused on e-literacy, but with the time it had to adapt to the needs of financial sustainability of the entrepreneurs. This has made possible the opening up of more services offered by the telecentres and more local flexibility to sustain the financial growth of the centres and as an associated benefit the effective development of e-literacy. To match their financial needs the local entrepreneurs are allowed to develop services which have never been considered by the government. The kiosks have therefore transformed through changes in the government policy from being ICT stations to become socio-economical institutions in the community which serve multiple interests.

5.4 Policy Shaped By the District Councils

As reported by one of the KSITM employees, the involvement of the local councils (village and block level) served to guarantee the support of government employees "convincing" them they would have benefited and not lost power because of the success of the project. Similarly, government departments that are process linked to the e-pay system were engaged so to view the Akshaya project as being in line with their own interests. This was done by a high number of regular meetings at local council districts level.

The KSTM had to negotiate intensively with the district councils. The selection of the entrerpreneurs was in fact delegated to the district council and the financial responsibility was partially passed on to them too. As a result, to better manage the project and reduce the administrative complexity, a change in phase three was made so that the infrastructure costs would be borne by the entrepreneurs and not any more by district council. Especially because financial sustainability was promised by KSITM, the interests of the district councils could be aligned with the KSITM project interests. For the e-pay and e-krishi services, negotiations took place with relevant government departments at state level. Five to seven people of the KSITM were responsible for liaising with the relevant departments. The process of alignment look longer than expected (the e-pay system was introduced in 2005), and at the time research negotiations were taking place for other services. The e-pay system is linked with a payment system that is already established (called FRIENDS), which in turn hardly induced any changes in the "back office" of the government departments. Therefore, interests were aligned for e-pay, but overall engagement is still ongoing for more complex e-government applications.

Many entrepreneurs communicate with the local district councils on a regular basis. According to one telecentre owner, both parties benefit: while the entrepreneur gets information about new Akshaya services from the council district, he in turn can give out statistics like data on the number of blind people in the village, and other relevant information which otherwise would not be accessible to the government, The district council negotiated the project as, since the beginning, it was perceived as a threat to the many different systems already in use at local level. As an outcome of the negotiation, the district council, in different manners, have been able to engage with the new policy as they found out useful ways to use the project in their interest as well. Districts councils are in fact now able to gather information on local communities as an outcome of their involvement with the Akshaya project. This has obviously had an effect on the way in which the kiosks work and interact with the local community.

5.5 Policy Shaped By the Citizens

The engagement of citizens has been difficult since the beginning. Given the complex socio-economical environment within which the project has unfolded, citizens cannot be viewed as one uniform group. Pupils, farmers, disabled persons and older citizens all have different needs. For example, the e-krishi service package was rolled out at the time of research and it remains to be seen how the service will develop in the future (for example, if and how an online price finding tool will be used), and thus whether this will effectively engage the farmers. Training software was popular with pupils and young adults, but most other citizens didn't use it. Communication services were also not as popular as expected. Citizens wanted to contact relatives who lived abroad, but these relatives often didn't have the technical means or the time to use advanced communication services like video telephony. Accordingly, this service did not really succeed in its intents. KSITM implicitly assumed that people would have engaged with this service directly following the e-literacy phase. However, it took a long time to implement further services. This resulted in a time gap which hindered the negotiation process. More than 40% of citizens who took part in the initial training did not return.

Citizens have indeed heavily influenced the entrepreneur as he was dependant on them as customers. Entrepreneurs, to maintain the financial sustainability of the business had to respond to their customers wishes and needs, so that local demands shaped the direction that any kiosk took in its development.

Kiosks do not act in the same way in every district as the local community they serve is different, depending on the services the community requires and the community willing to pay for.

6 FINAL REMARKS

The nature of the Akshaya project has been shaped by a complex set of factors. The case shows that e-Government projects are not always the outcome of planning and controlled change management initiatives, as described by many new public management driven projects. E-Government projects often emerge as an outcome of a complex set of relationships. The relationships develop in a network that dynamically shapes and re-shapes the actors and their characteristics. The actor can thus be defined as one output of the relationship in a network (Callon 1993). Looking at our case, we see that all the actors involved in the Akshaya project, the KSITM, the district councils, the entrepreneurs, the kiosks and the users have changed over time just as the overall project has. This happened because, as actor network theory argues, actors and network relationships are never stable but evolve in imbricate relational networks. E-government initiatives, as the one discussed in this paper, seem to reflect very closely this high level of interdependence and evolutionary change.

As our case shows, due to the dynamic nature of the actors' interaction, changes fed through via the entrepreneurs and the district council to the KSITM. Various actors adjusted their goals and, in the different phases, rethought the nature of the project, the characteristics of the involved actors and the service delivered.

Finally, recalling the concept of circularity of actor network relationships, it is clear that every e-Government initiative is affected by the characteristics of the actors, and thus by the different interests the actors bring to the relational network. Every actor adds characteristics that are the result of negotiation which can happen at different levels. An actor can, and usually does belong simultaneously to many relational networks. As our case shows, KSTIM, the district councils, the entrepreneurs, and the kiosks are each of them imbricate in many complex relational networks which shape over time their interest, path and role in the unfolding of the project. Every time that a change occurs in one of these actor's interests, recursively new, emergent characteristics are re-proposed back into the overall project. These characteristics are once again negotiated among the actors so that, in an ongoing dynamic process, recursive negotiation is shaping the nature of the project. This case shows that e-government initiatives are often emerging as outcomes of negotiations and ongoing relational interplay that make them unstable and changing over time, so that e-Government projects should be studied in their making and not as results of planned action and sequential evolutionary phases.

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