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ALIGNING NATIONAL POLICY IMPERATIVES WITH INTERNAL INFORMATION SYSTEMS INNOVATIONS: A CASE STUDY OF AN OPEN SOURCE ENTERPRISE CONTENT MANAGEMENT SYSTEM IN THE SOUTH AFRICAN PUBLIC SECTOR

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Abstract: This paper addresses the question: Can changes in internal organisational practices be effectively aligned with contentious national policy imperatives? One of the authors followed the implementation process of an Open Source Enterprise Management System in the South African Public Sector. During this process change management was observed in relation to challenges and opportunities in the alignment of the internal organisational changes to the imperatives of the national Free and Open Source Software policy. Based on this reflection it is proposed that the alignment of the organisational environment, change management strategies and 'technologies in practice' is required to address many of the 'common' change management challenges. However, this approach does not assist in addressing the major challenge of attaining harmonious internal organisational changes which attempt to implement contentious national policy.

Keywords: change management, alignment, open source, South Africa

ALIGNING NATIONAL POLICY IMPERATIVES WITH INTERNAL INFORMATION SYSTEMS INNOVATIONS: A CASE STUDY OF AN OPEN SOURCE ENTERPRISE CONTENT MANAGEMENT SYSTEM IN THE SOUTH AFRICAN PUBLIC SECTOR

1. INTRODUCTION

Castells (2000a, 2000b) describes in voluminous detail the impact of globalisation on the economy where the new form of business operates through the networked economy. For organisations there is a pervasiveness of change processes which are rising with these globalising effects. Change is often imposed by external factors in an organisation. These can come from global changes, national policies or national economic climate. This not only implies that the context in which organisations are situated are continuously changing, but also the nature of the organisation itself is subject to change (Van Tonder, 2004).

This paper explores one such externally imposed change around the implementation of a contentious national policy. This entails not alone dealing with the more usual dimensions of change in an organisation, but also the implications of the national debate and contentions around the national policy playing out in the local setting of the organisation. This paper explores the movement within a government department from a proprietary Enterprise Content Management (ECM) system, herein after referred to as the proprietary system (PS), to an open source ECM system, herein after referred to as the open source (OS) system. Two main aspects of the change process are explored, that of the external impact of the national open source policy within government departments and also the internal change of work processes and information systems changes in complying with that policy. These two aspects are intertwined. Alignment of the organisation mission, values and objectives, with the proposed technological innovation and change management models emerges as a necessary condition for managing change. However, what emerged as a more challenging issue was whether internal organisational changes can be aligned with contentious national policy imperatives?

This paper is accordingly structured. The next section reviews the Free and Open Source Software (FOSS) Policy of the South African Government. Section 3 outlines some of the theoretical change management approaches and Information Technology (IT) diffusion models. The research approach followed is described in Section 4, with a description of the case study following in Section 5. Challenges faced in terms of alignment of the internally proposed changes with the national policy are discussed in Section 6 and a framework is proposed that could improve greater alignment between the organisation, change management and IS in the concluding section.

2. SOUTH AFRICAN OPEN SOURCE POLICY

The following section provides a background of the history which led the South African Government towards accepting and implementing its policy on the use of FOSS, and was mainly gained from an interview which was held with the CIO of the

Government Department and the Government policy documents (DPSA, 2006: GITOC, 2003).

The South African Government's journey on the adoption of FOSS started in 2001. The Presidential International Advisory Council raised issues on FOSS and consequently there were questions asked in Parliament. In 2001 the National Advisory Council on Innovation (NACI) published a research paper on Open Source, Open Standards and the bridging of the digital divide. IT officers in government were asked to respond to this paper. A Standing Committee (SC) consisting of Government department Chief Information Officers (CIOs) were formed around what was the Government to do about FOSS (Otter, 2002).

In 2002 the SC held its first meeting which was attended by 3 people. Perception and awareness on FOSS in Government was investigated as an initial first step in the development of an FOSS strategy. There was little awareness on FOSS and a perception existed that FOSS was unthinkable in Government systems as this would imply using software that was unreliable, without support and developed by a group of people doing there own thing. Interestingly, in 2001 most of Government's systems in terms of infrastructure, such as internet relays, web servers, DNS servers and web proxy's, were already running on Open Source Platforms. This could be contributed to the fact that it was much easier to just download and use it than to go through the whole procurement process which was very lengthy. Alternatively, it could point to a lack of FOSS awareness of users of Government's systems and what systems they are using. The strategy document written by the SC focused on raising awareness of the benefits of FOSS to Government. In 2003 a policy statement was developed which outlined a 3 phased approach to FOSS: create awareness on FOSS; pilot FOSS in Government and then roll it out; and aggressive mandating and forceful adoption of FOSS in Government. Government adopted the policy in 2003, but between 2003 and 2006 there were no new implementations of FOSS in any Government department.

Two accepted policy submissions have thus been made to the South African Cabinet on Open Source Software (OSS) since 2002 (DPSA, 2006). The first one titled, *Open Software and Open Standards in South Africa: A Critical Issue for Addressing the Digital Divide,* was done by the NACI (Cabinet Memorandum No. 13 of 2002). In this document NACI formulates the use of Open Standards to be a preset base for ICT in the public sector. Reasoning around this included that FOSS would promote interoperability and universal access to the South African government's online services without exorbitant costs; reduce restrictions because of licensing or other related obstacles; and reduce the risk of being 'locked-in' by specific vendors of ICT commodities and services, which would in turn drop the entry barriers for local software developers who are able to offer ICT solutions to the public sector. The second submission to Cabinet was done by the then Department of Arts and Culture, Science and Technology. This submission, which encouraged the utilisation of FOSS in government, was a proposed FOSS policy for Government (Cabinet Memorandum No. 29 of 2003) and was fully backed-up by the Government IT Officers' (GITO) Council.

In 2005 and 2006 several civil society organisations petitioned the Minister of Public Services and Administration, asking her to make sure that Government implemented

the FOSS policy, as they were of the opinion that if Government adopted FOSS while being the biggest procurer of IT products in South Africa (around 60% of money spent on IT) it would make it easier for them to also adopt it, because it would result in better FOSS skills and better FOSS support.

By 2006 it was evident that the tide was beginning to turn. In his speech during Software Freedom Day (SFD) - a yearly international celebration of free software - the Director General (DG) of South Africa's Department of Science and Technology, said that lack of technology access due to insufficient funds and infrastructure is the primary challenge in Africa and that FOSS seemed to be ideal to solve this problem (DST, 2006).

In 2006 and 2007 Cabinet requested the SC to report back on the implementation of FOSS in Government. The SC submitted a reworked policy to Cabinet. The new policy mandated three things: Open Source, Open Standards and Open Content (OC). This policy aimed at an entire open philosophy to be developed in Government. According to this, all new systems developed by Government should be based on FOSS, but there was still a clause built in to give people the ability to back out for valid reasons such as privacy or security issues (mainly needed by the Department of Defence). The policy contains three statements: firstly, FOSS will be used unless there's valid or justifiable reason that it shouldn't; secondly, FOSS methodologies would be used in a collaborative open licensed way and everything should be open content, unless there was a valid reason, such as security or privacy issues; and thirdly that Government will not only use FOSS but will also encourage the use of FOSS and Open Content.

The South African Cabinet approved a FOSS policy and strategy on 22 February 2007 and agreed that all future software to be developed for government would be based upon open standards and that Government would migrate its current software to FOSS (GCIS, n.d.). Government departments were to include FOSS in their planning and a project office was to be established by SITA, with the Council for Scientific and Industrial Research (CSIR) and the State Information Technology Agency (SITA) tasked to ensure the smooth implementation throughout South Africa. A SC to implement the policy, consisting of the DGs of the Department of Science and Technology, Public Service and Administration and the CEO of SITA, was formed, and subsequently a Programme Office at SITA was established. The SC now plays an oversight role of the Programme Office at SITA, which is tasked to ensure the implementation of FOSS in all Government departments. The responsibility of implementing the policy still lies with the CIOs of every national Government department due to the unique nature of each department's systems. Synergies between departments should be coordinated by SITA.

It is imperative to mention that there isn't unanimous support for the FOSS Government policy and government departments, with the exception of a few, seem to be rather unwilling to jump onto the FOSS bandwagon. Although SITA was given the task to set up an Open Source Programme Office to ensure and coordinate the implementation of FOSS in all Government departments, the FOSS policy had by June 2008 not even been implemented in SITA itself.

The next section looks at what can be gleaned from the variety of organisational change management models and IT diffusion and innovation models which could inform the proposed move from the PS ECM to the OS ECM to be aligned with the FOSS government policy.

3. IS CHANGE MANAGEMENT MODELS

It is debatable whether change can be managed or not:

> *"Change can't be managed. Change can be ignored, resisted, responded to, capitalised on, and created. But it can't be managed and made to march to some orderly step-by-step process."* (Mintzberg, Lampel and Ahlstrand, 1998 quoted in: Van Tonder, 2004: 9)

This position can be juxtaposed with the numerous organisational change models which exist for the practical advice on managing change. Different ways in which to manage change are related to how change is viewed. Two main models relating to internal organisational change rely on two typologies of change: rational-purposive (Lewin, 1951) and cognitive (Van Tonder, 2004). Most of the models based on this view of change explicitly or implicitly imply that change can be managed in "one best way", but recognise that organisational practices are complex, non-linear, that environments are turbulent and rapidly changing and that organisations have to adapt and evolve (Van Tonder, 2004: Chapter 9).

Emergent approaches to the management of change received popularity in the 1980s (Burnes, 1996) and emerged out of the need to gain a broader understanding of change management in a complex environment. Prescriptive approaches to change and conceptualisations of change as a linear sequence of events did not appear to be working (Macredie *et al.*, 1998: 8). As each change context is unique, process oriented theories help understand the underlying nature of the change and encourage an enabling rather than a controlling approach to managing change. Most of these theories have the fundamental argument that change within an organisation can only work if it is aligned with its environment. One of these models is the Improvisational model of Orlikowski and Hofman (1997) . The model is based on two major assumptions: change is an ongoing process, and; every technological and organisational change cannot be anticipated in advance. In managing change there needs to be dedicated resources for ongoing support for the change process, and alignment of the key dimensions of change (the interdependent relationship between the organisation, the technology and the change model). This is illustrated in Figure 1.

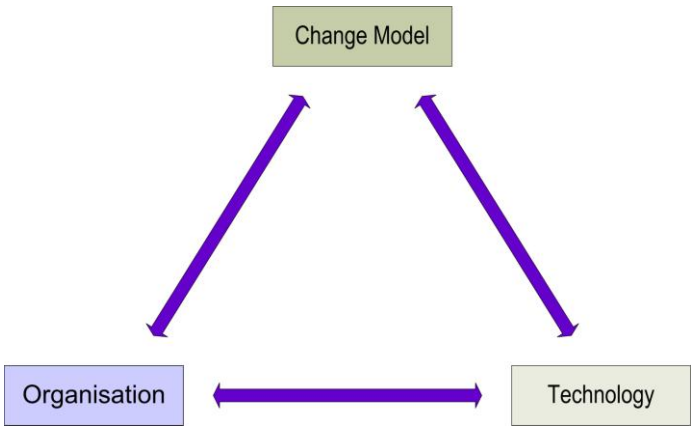

Figure 1: Aligning the key change dimensions (Source: Orlikowski and Hofman, 1997: 18)

Alignment of strategies is a requirement of this model and a recurring feature of process-oriented theories. The change process needs to be understood in order to be managed or guided.

In relation to change resulting from IT there are many different conceptualisations of the technology transfer process emphasised in the literature. These are mainly based on technology transfer understood from the perspective of diffusion (Rogers, 1995) which is also embodied in the Technology Acceptance Model (Davis, 1989). These approaches view technology transfer primarily as a one way and sequential process, and could be criticised for how technology is characterised in that they do not look at organisational culture; they do not provide for the different world views of the agent of change and the organisation within which the change is implemented (Du Plooy, 1998a); and the technological frames of reference of the agent of change and the organisation is ignored. There is also a focus on voluntary use situations (voluntary decisions to adopt ICT are not very common and often is as a result of a mandate issued by higher management).

To address this list of shortcomings Du Plooy (1998a) built a comprehensive framework, which he calls the 'human environment' affecting IT adoption and use. The main aim of this framework is that it could be used to understand or make sense of the adoption and use of IT in organisations by emphasising the cultivation and nurturing nature of a human and social environment. Such an environment facilitates adoption, use and the integration of IT in a socially responsible manner. Du Plooy addresses the social factors through the inclusion of six social contexts: people; organisations; groups; tasks; environments, and; technology. These contexts are different in their natures, but should be viewed as a collective that is tied together by the notion of a human environment. In this model, learning can take place as consideration is given to the deep structural processes in engaging change.

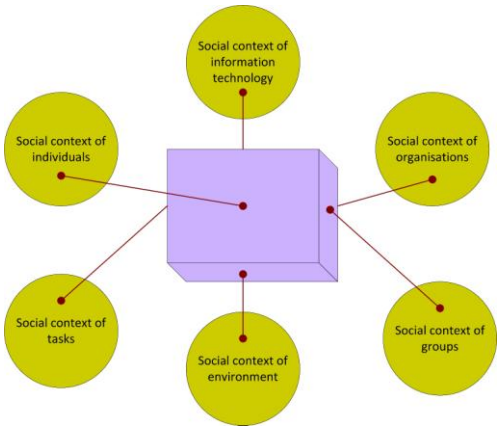

Figure 2: Du Plooy's Human Environment Model (Du Plooy, 1998a)

Though underpinning Du Plooy's model is the duality of technology the structuring process of technologies in practice is perhaps a better way of describing the duality of technology within an organisation. One of the common theoretical understandings of

the use and impact of IT in an organisation is the adaptation of Structuration Theory by Orlikowski (2000). She argues that technology structures are emergent, and not embodied. They emerge only through the recurrent use of the technology by humans, who would use some or all of the material and other properties of the technology. Thus, the focus is not on technology, but the interaction of humans with technology. She argues that:

> *"…while users can and do use technologies as they were designed, they also can and do circumvent inscribed ways of using the technologies – either ignoring certain properties of the technology, working around them, or inventing new ones that may go beyond or even contradict designers' expectations and inscriptions." (Orlikowski, 2000: 406)*

It is these 'enacted structures' of technology which she terms 'technologies in practice'. People use technology with their prior knowledge and experience in a given context, which has norms and values and recursively structure organisational practice and learning.

Three aspects of the change management debate emerged as of interest to this research and are drawn upon in the rest of the paper. Firstly, change is emergent and alignment of organisation vision and objectives with the technology and a change model is needed. Secondly, change in organisations should be viewed as multi-dimensional and Du Plooy's six social contexts assist in obtaining this perspective. Thirdly, technologies in practice assist in gaining a better understanding of the human environment in which technology is used.

4. RESEARCH METHOD

An interpretive approach, using a single case study (Walsham, 1993, 1995: Barrett and Walsham, 1995) was used to gain an in depth understanding of the dynamics present during the process of rolling out an OS ECM system at one of the national Government departments in South Africa.

The collection of data took place from the 26th of March 2008 to the 22nd of August 2008. A total of 10 meetings were held throughout this period on a weekly basis. The meetings were held at the Government department's premises and were aimed at keeping all stakeholders informed on the progress of the pilot project, and determining actions to be taken during the upcoming time period. There were about twelve people attending these meetings when the project started in March 2008. Parties involved were: the Government department (where rollout would happen); SITA; and the external OS Service Provider (who would be responsible for setting up and implementing the new OS ECM system). The meetings were chaired by a representative from SITA.

Throughout the project, data was collected by means of direct observations made during the weekly meetings and through regular visits to the Government department to observe the change process. Semi-structured interviews were conducted with end-users after the implementation and training. These included the Deputy Director (DD) and two assistant administrators in the DG's office. Each interviewed lasted about an hour, were tape recorded and then transcribed. The questionnaire was built

around the six dimensions of Du Plooy's human environmental model (1998a) and the key dimensions of Orlikowski & Hofman's improvisational change model (1997).

Initially the researcher wanted to commence the interviews with questions on the users' background and their experience in the use of IT in general, but during the project meeting on which the proposed user evaluation questions were discussed, the meeting (and in particular the representatives from SITA) felt that users would feel threatened by these questions as some of them didn't have any previous job experience which included the use of IT. As this apprehension could negatively influence the outcome of the questionnaires, it was decided to move these questions to the end of the interview.

All meetings were minuted and approved in the next meeting. The researcher also documented the meetings separately in more detail and made use of analytical memos to describe situations and to identify possible patterns and tentative explanations for these patterns as the case study unfolded. The interviews were transcribed, read through and verified by once again listening to the tape recordings. Themes emerged from the transcripts and the analytical memos and were used in conjunction with concepts from the change management literature to write up the case analysis.

5. CASE STUDY

This section describes the OS ECM system project case in terms of the key dimensions of Orlikowski & Hofman's improvisational change model (1997) .

5.1 The organisational context

The pilot project started at the beginning of March 2008 and was aimed to be completed at the end of May 2008. The new system was aimed to be run in the Minister's office only. The plan was to evaluate the implementation on completion, and if found to be successful, the department was to embark on rolling out the OS ECM to the rest of the department as a second phase of the project. The initial aim was to accomplish all of this by the end of 2008.

The CIO of the Government department appointed the current ECM PS specialist to lead the new OS pilot project. At the first meeting of the regular weekly project meetings it was quite obvious that the Government department's CIO was unhappy with SITA. In order to procure any services in Government SITA had to issue an appointment letter. This letter had not been issued to the OS service provider. The service provider had only received a purchase order. SITA's response to this was that an appointment letter was unnecessary in this particular case. The department's CIO insisted on a letter as his department wanted SITA to ensure that there was no risk in accepting the OS service provider's appointment.

During the same meeting the CIO also insisted on getting the follow-up project (second phase) moving during which the pilot would be rolled out to the rest of his department. He accused SITA of holding up the process, as the request for proposal (RFP) for the pilot project was submitted to SITA in November 2007, but the service provider was only appointed in January 2008 – a process which should only take 2 weeks. The project manager (from SITA) requested that a business case be built for procurement of the second phase. He suggested that they try and get the phase two tender out in the middle of this pilot project, so that the Minister's office would not be

hindered by the further roll out and delays in commencing the second phase would be minimised.

Another complaint was lodged by one of the employees of the Government department, who regarded some of the paragraphs in the project charter (the document that formally authorises the project and which provides the project manager with the authority to apply organisational resources to project activities) to be 'loaded'. The chairperson of the meeting (who was from SITA) suggested that the meeting went through the project charter to identify such phrases, so that they could be restructured. While this was done, the CIO of the Government department also pointed out that he could not see SITA's responsibility towards the project in the project charter. He wanted to know what in the project charter would show him whether SITA has performed or not and suggested that SITA's responsibility be added to the charter in a separate clause.

Due to the changes that now had to be incorporated in the project charter, one of SITA's representatives (the project manager), suggested that the charter was signed by the Government department as it was, and that the issues with the charter would then get minuted. He would then get a Change Control Proposal (CCP) from SITA so that the project is not once again delayed – according to him if they changed the proposed charter, it would take another two weeks to go through language editing. The CIO agreed to sign but was not convinced that the changes would be incorporated by SITA if he signed the incomplete version. The project manager then suggested that he signed "subject to changes as minuted", after which he agreed.

The exact location and boundaries for the pilot project were called into question in an informal meeting attended by the ECM PS specialist, the external OS service provider, one of the authors, and two of the ECM users in the Minister's office. The two users noted that it would be difficult to confine the pilot project to the Minister's office. There were only two to three things per month which were handled solely by the Minister's office – the rest of the requests were sent down as workflow to various other people in the department, who had to respond to the requests and who had to provide feedback on their actions to the users in the Minister's office. One suggestion was that the pilot project could be narrowed down to a particular workflow of documents at all levels in the Ministry over the next 3 months. This would have the implications that more users would need to be trained and that the old and new ECM would need to be run in parallel resulting in increased workloads for the users. A further meeting between the ECM PS specialist, the external OS service provider, and the supervisor of the users in the Minister's office, agreed that the document tracking/workflow line between the Minster's Office and the DG's office would form the pilot project. Consequently the duplication of the two systems would be confined to the Minister's and the DG's offices and the DG office users would need to be trained.

5.2 The technology

Some of the main reasons for choosing the OS ECM project as a first OS pilot project were that the current solution was very costly and the OS implementation would make a significant difference on the department's software budget. The department was not happy with the technicality of the PS and the support they got for the system was insufficient.

At one meeting the Government department's CIO raised the problem of another proprietary ECM system which was currently available to other Government departments for purchase. The CIO was of the opinion that this would lead to double standards in Government departments with respect to promoting the governments FOSS policy. He further indicated that he knew of other departments rolling out this other proprietary system and that they were able to do so without any a proof of concept (POC) i.e. without any evidence that the system is viable and capable of solving the departments' particular problems. He therefore said that they would want the pilot project's OS ECM system to be as flexible, in terms of procurement and functionality, as the proprietary ECM, in that it would fit all the current processes of Government departments. In this way the OS ECM system would be as acceptable to all as the proprietary one.

The issue of evaluation was raised during the first meeting. SITA was tasked to come up with an evaluation 'tick-list' to evaluate the project after implementation and was to make use of the evaluation criteria used for a previous Government tender (the so called 'Tender 398') or the New Zealand Government specification. Concerns were raised over the timeframe for the evaluation metrics to be developed (CIO of the Government department); alignment of the metrics with the RFQ (OS service provider), and; the inclusion of a user perspective in the evaluation which was currently focusing only on a technical evaluation (researcher). These concerns were addressed.

A concern was raised by the Government department that all project communication, e.g. minutes of project meetings, should be done using FOSS. SITA was still in the transition phase to migrate to FOSS and this was only scheduled to happen in June/July, so SITA felt that they could not comply with this request. The CIO of the Government department mentioned that the project members should not wait for the entire SITA to be migrated to FOSS, because this would make communication very difficult and that the installation of FOSS was very easy. The CIO of the Government department was then tasked to write a letter to SITA to put forward a business case for the team members to get at least Open Office installed on their computers.

5.3 The change model

The minutes of the weekly project meetings were generated and distributed by SITA. Throughout the project the heading "change management" was used in the minutes to address issues regarding the training of users of the new OS ECM system.

During the first meeting the ECM PS specialist noted that the training would not be able to take place on the times as stipulated in the proposed project plan. The members of the Minister's office, which needed to be trained, would be in Cape Town in May, and the schedule indicated that they were to be trained on the new system during the same time. The project schedule had to be changed accordingly. The Government department's CIO added that he wanted an extra day's training to be included on Open Office, as he believed that it would add to the success of this pilot. The new OS ECM would require users to manage documents and these documents were, because of Government's OS policy, soon to be only OS documents, and the users were not yet familiar with these either. In a later meeting the external service provider raised a concern in this regard. He was afraid that the users might give the

new OS ECM system a bad evaluation, as they might resist the use of FOSS to generate the documents to be managed by the new OS ECM system.

User training proved problematic in terms of lack of commitment of users (they left the training to attend to other office business), separate one-to-one training being scheduled, and the DGs office cancelling training and being unavailable for the month of June. Apart from this having financial implications for the project, it hampered the project schedule, as the Minister's office started to populate the document management system, but the workflow part of the system could not be utilised before the training of users in the DG's office was completed.

The broader question of change management was raised by one of the representatives of SITA when he asked the PS ECM specialist what change management had been done on the project. He replied that the department organised a session with users from the Minister's and DG's office during which they were informed about the Government's FOSS policy and given the reasons for moving to the new OS ECM system. During this session they were also notified about the user evaluation which would be done at the end of the pilot, as well as the dates which were set to train them on both Open Office and the new OS ECM system. The SITA representative replied that change management had to be included formally and properly during the second phase of the project, as the success rate would depend on it. It was not at all pointed out what the content or process of the change management was to be.

5.4 Project Outcomes to date

The pilot project started at the beginning of March 2008 and was to be completed at the end of May 2008. During the project several incidents caused the completion date to be extended, such as the system users in the Minister's office not being available for training; delays in providing the external service provider with the necessary workflow so that the system could be set up accordingly, and; defining the project scope. The user evaluation, which was the final project task to be completed, was only done on the 22nd of August 2008. Feedback from the PS ECM specialist at the end of February 2009 indicated that the pilot project had been completed, although the final report from SITA was still to be received. The Government department's top management had though approved the second phase to roll out the OS ECM to the rest of the department and implementation was to start in a short while.

6. Discussion

Clearly there were several challenges with the Government's FOSS policy playing out at local level. For the adoption of IS to take place in this context, aligning the internal organisation, the change management strategy and the way in which technology is used in practice, seems to be necessary.

6.1 Change Management Strategy

At the national level the decision of Cabinet to command SITA to ensure that FOSS is rolled out and coordinated in all Government departments could be questioned, as SITA had not even transformed their own IT policy to correspond with Government's FOSS policy.

At the organisational level there was clearly tension between SITA who did not appear to embrace the FOSS policy and the CIO of the Government department who was keen to do so. There was no official plan for change management at this level and the process followed fits well with the Trukese way of open sea navigation as discussed by Orlikowski and Hofman (1997). It was apparent from the project meetings that change management was viewed as training and evaluation. Only on one occasion had any of the proposed users been informed of the FOSS policy and the proposed changes which were to take place.

During the interviews the users in the DG's office complained that the training they received on the new system was insufficient in the sense that they didn't have enough time to learn and implement what they learned on the new system.

"I did attend the training, but after I came back from the training, I didn't have enough time to practise what I've learned."

"The training was not long enough."

As a result they didn't find it easy to work with the new system. The fact that they had to run the old PS and the new OS systems in parallel increased their work load, and for all of them this added a lot of stress to their jobs. Because of this, they didn't have time to update both systems one after the other (as one would expect them to), but some of them sent the document via the old system and would only duplicate this on the new system the following day.

All the users agreed that the support they got from the PS ECM Specialist, who assisted them whenever they needed it, was invaluable and was what kept them going on the new system.

"I'm satisfied with the support that I'm getting, because the person that is helping us is always there."

"I think the training time was too short, but maybe we are too privileged to have 'the PS ECM Specialist' – he will come in and give us some lessons whenever we need it."

It was therefore clear that the PS ECM specialist acted as a 'champion' for the project and one has to derive that his dedication and support for the project contributed immensely to achieving the end result, which could otherwise have been very different. This also correlates with one of Orlikowski & Hofman's (1997) proposed enabling conditions to adopt an improvisational change model - that of "dedicated resources to provide ongoing support for the ongoing change process."

6.2 Internal and External Organisation

Political play surfaced throughout the change process between the Government department and SITA. This was apparent in the accusations made by the Government department's CIO that SITA wasn't committed to contribute to the success of the described pilot project and that he struggled to find their responsibility towards the project in the project charter. It is also clear that there were serious trust issues between the Government department and SITA, with the CIO of the Government department accusing SITA of delaying the whole process from the start.

A lot of value could have been added to enhance the possible adoption of the new system, if special attention was paid to nurturing or cultivating the social context, as described by Du Plooy (1998a), within which the system was to be implemented. A lack of in-depth understanding of the organisational culture and politics could have resulted in the DG office's cancelling their scheduled training at the last minute. The

implementers could have pre-empted this if the culture of the group, relevancy of the new system to the users, users' knowledge and perceptions of IT and their attitude towards management were investigated. Additionally there was an inherent assumption that the users were a homogenous group of people in relation to IS adoption and a 'one-size-fits-all' training was designed and planned.

What was also missing was an attempt to align the various actors to the Governments' FOSS policy. Sessions on what the events were which led to the Government's FOSS policy and why the CIO of the Government department was pushing so hard to implement the new OS ECM system would have been useful and might have shed light on SITA's unwillingness to cooperate in the FOSS migration process before the project even started.

6.3 Technology in practice

On the individual level special attention could be paid to understand for example the technological frames of reference of the users before implementation. Few of the users were familiar with computers and the software used in this particular context. This general unfamiliarity with technology was not addressed.

Although the new system did not seem to change the reporting structure in the department, it seemed to have an influence on the power play, as some of the users described how the new system shows exactly where a document is, who has to work on it, and what has been completed on it.

" … she'll (my boss) send me a document and she can still see whether there was action done on the document, or not. Now I'm going to be productive – like you know, I'll know that this document – by looking at the urgently of the document – it has to go somewhere and my boss can check whether I've sent it on."

Determining whether the new system would increase/decrease their productivity was impossible to verify, as the increased workload perplexed their ability to evaluate this.

"Doing the work in both 'the OS system' and 'the PS system' is extra work and we've got plenty of work here in this office!"

"It's not a difficult process, but at the moment, you know, it actually takes a lot of our time, because you have to save your document in 'the PS system', then export the document to 'the new OS system' – stuff like that."

When asked to compare the new system with the old one, and to elaborate on the new system's ease of use, it was clear that the users had not worked with or seen most of the new system's functionalities, such as document tracking, security, etc.

"I can think the new system has everything it needs. I haven't seen it all, but they told me so…"

"At the moment it's used only for document management – I don't really know what else it can do."

This raises a concern as one of the aims of the pilot project was to determine whether the new system would be considered a sufficient replacement of the old PS system and the interviews clearly showed that this could not be determined.

Some of the users mentioned that the old ECM system used document numbers to identify a document uniquely, and that they found the new system to be lacking in this regard. This doesn't really exploit a functionality the new system doesn't have, but rather reveals a change in the existing work process which could lead to a certain

level of resistance, although it was not really pointed out to be a determining success factor.

> *"What I like about 'the PS system' is the document numbers – like after saving the document you'll get a number – say like 1, 2, 3, 4 or 5 – so you can only use that number in your diary – then you know those are the documents that you've been sending through and which you need to track. 'The new OS system' does not have these numbers to refer to a specific document loaded onto the system."*

7. CONCLUSION

Du Plooy's human environment model (1998a, 1998b) with Orlikowski's (2000) technologies in practice model, assist in understanding the human environment in which technologies are used and reveals how one can 'cultivate' this human environment within which technology is to be implemented. Combining this with Orlikowski and Hofman's (1997) alignment of the key change dimensions, adds an important aspect to the social context of ICT. Figure 3 provides a model of such a framework.

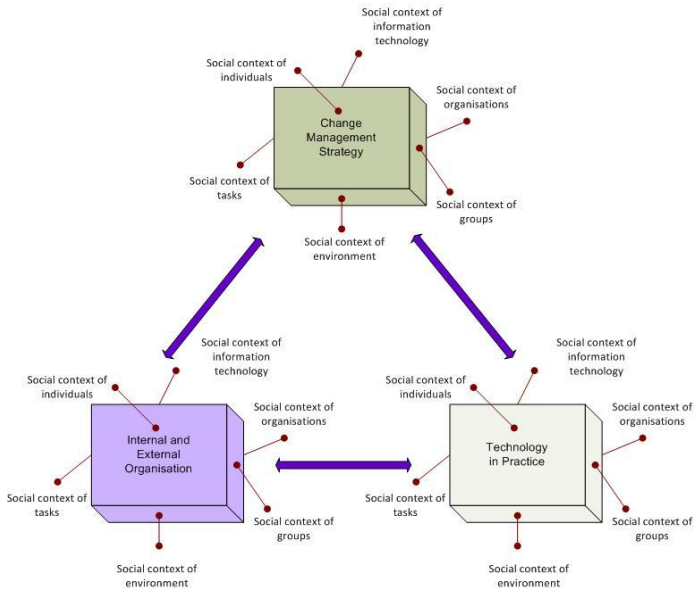

Figure 3: Adapted model of alignment of key dimensions of change

Such an approach to change could for example highlight key activities which should have taken place in the above case study. For example, looking at the philosophy behind the national policy and getting buy-in at departmental level may have been advisable before proceeding with the implementation of the new OS ECM system.

Many of the challenges raised are common oversights in change management literature, such as inadequate consideration for the social context in which the change was to take place. However, what makes this case different to the standard change management case is that one of the main challenges arose from the alignment of internal organisational change to a national policy which did not seem to have the full support of the agency which was tasked with implementing it. It is hard to see how the key challenge to the implementation of the new system could be addressed within the organisation – a contentious national policy will be a contentious internal policy if representatives of the same stakeholders are involved at both levels.

Can changes in internal organisational practices therefore be effectively aligned with contentious national policy imperatives? Our conclusion is that an awareness of the social context of the organisation and the environment in which it is to be implemented, might at least provide an understanding of what the contention is about, if not the solution on how to address it.

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