IT SERVICE MANAGEMENT IMPROVEMENT – ACTOR NETWORK PERSPECTIVE

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Abstract

Organisations are looking to best practice frameworks such as the IT Infrastructure Library (ITIL) to improve the quality of their IT Service Management. This paper describes the approach taken by a large UK-based bank in adopting ITIL and gaining certification to BS 15000 and ISO/IEC 20000. The use of cognitive mapping enables a focus on the concepts which drive the manager's view of ITIL implementation. This leads to the identification of themes which are of relevance to IT organisations adopting standards. This paper illustrates the power of actor network theory in explaining and structuring the activities of managers in their practice of service improvement. Additionally it shows how cognitive mapping can be connected to an actor network analysis to tease out the underlying mindset and connected concepts which drive the enrolment activities and influence the translation of participants' interests. The case study illustrates a rich set of lessons to be learnt from successful implementation of new IT service processes. Managerial instruments such as organisational restructuring and the definition of new roles and processes must be backed up by appropriate communication which provides a rationale for the changes, sets the context and draws people in.

Keywords: IT infrastructure library, ITIL, BS 15000, ISO/IEC 20000, IT service management improvement, actor network theory, cognitive mapping, case study.

1 INTRODUCTION

IT service management involves the delivery and support of technology, applications, information and training within an organisation. For many IT departments, a shift away from a technology focus and a cessation of in-house application development has led to an increasing customer focus and an awareness of the importance of service processes.

For many organisations, the main activities of IT involve the support of technology and proprietary software procured from third parties. Hence skills around supplier management, customer management, contract management and contract monitoring come to the fore. IT departments must now understand their services through the development of a service catalogue, and develop and monitor services using service level agreements.

These services often centre on the management of customer contact through helpdesks or call centres, the management of incidents such that customers' IT services are restored as quickly as possible. This leads to the development of problem management where efforts are made to analyse and predict problems in order to reduce the number of incidents, and availability management whose intended outcome is the minimisation of downtime of systems.

This shift in the focus and philosophy of IT departments, away from a constructivist view, which focuses on the ICT artefact and its construction, towards a more analytical, service-oriented view, has led to an explosion of interest in standards and benchmarks for IT service processes. The growth of the IT Service Management Forum and the spread of ITIL (IT infrastructure library) is witness to the growing perception of IT as a service operation.

ITIL itself is based on a set of prescriptive manuals which define the steps and processes involved in what is described as the ten ITIL disciplines which include incident and problem management, configuration management, release management and financial management. These manuals define the best practice for these disciplines. Organisations then strive to adopt ITIL, which means that they carry out the IT service processes as described in the ITIL manuals. Furthermore, suppliers of helpdesk and configuration management software systems ensure that their systems are ITIL compliant and will support ITIL processes. ITIL formed the basis for the BS 15000 standard in the United Kingdom. BS 15000 provides the basis for auditing a company's IT services with the goal of providing certification that IT service processes are delivered to a certain standard. BS 15000 was recently revised and issued as ISO/IEC 20000, to provide an international standard for IT service management.

Recently, many large companies have begun to prepare themselves for an audit of their IT services to see if it meets ISO/IEC 20000 standards and can be certified as such.

This case study follows the progress of a large UK-based financial institution as it prepares for, and achieves, ISO/IEC 20000 certification. For competitive reasons, the firm wishes to remain anonymous, and is referred to as the Bank. Firstly the case study is presented as a narrative in which the connecting events are identified in order to create a coherent story based on a structured interview with one of the senior managers at the bank. Secondly, it is argued that the process of standards adoption at the bank is, in actor-network terms, one of enrolling or recruiting staff at all levels to the adoption of ISO/IEC 20000 through various forms of communication which seek to translate employees' interests into the standardisation of service process and hence establish the adoption of ISO/IEC 20000. Thirdly, the question of what inscriptions are employed in aligning employees interests with ISO/IEC 20000 adoption are explored through cognitive mapping. The use of cognitive mapping enables a focus on the concepts which drive that manager's view of ITIL implementation and ISO/IEC 20000. This leads to the identification of themes which are of relevance to IT organisations adopting standards and may suggest research directions.

2 METHODOLOGY

In July 2006, the authors interviewed the Process Architect responsible for the conduct of the BS 15000 and ISO/IEC 20000 certification. A structured interview was used based on an instrument developed by Hochstein et al. 'to identify insights which can be logically followed and transferred to other organisations' (2005). The interview was recorded and transcribed, checked by the researchers and confirmed by the interviewee as a valid record of the interview. The analysis presented here is based on the data gained from the interview.

3 BACKGROUND OF THE BANK'S IT SERVICE MANAGEMENT

The IT Service Delivery Function of the Bank consists of some 800 employees providing IT services to its internal customers in the business units of the bank. These include retail bank branches, wealth management units, insurance and investment. The IT Services Group staff work from 20 different buildings in eight different UK cities.

This group is concerned only with service delivery; elsewhere some 1,600 staff carry out the system development. The IT Service Delivery Function supports about 70,000 desktops, and provides 80 different services.

In 2002 a new Chief Executive Officer was appointed. He encouraged business units (the customers of IT Service Delivery Function) to be more accountable for their profit and loss, and to be more autonomous in their decision-making. The financial products market has changed. Globalisation and the Internet increased the likelihood of customers switching banks and going elsewhere for services. If that could happen for the bank's customers it could happen to IT Services Group's customers.

> *'In the old days, business units were told 'you will go to Group IT for your IT needs'. We could see a time coming where they wouldn't have to do that. It hadn't actually happened, but we could see that time coming, so the Director of Service Delivery at the time said 'we need to get ourselves in a position where we are truly competitive so that ideally they won't even go looking because they'll know we're the best'.'*

In 2002, the IT services provided to customers were not seen as the best: the perception of IT service customers in the branches was of low reliability of services. Service outages were too frequent. In January 2003, total downtime amounted to over 12,000 minutes.

> *'Group IT was being beaten up by its customers – we were being told we weren't good enough. Group IT is all the different directorates, there is Service Delivery (our organisation), Project Delivery and then there's some other bits around that, CTO organisation and the CIO organisation and various supporting parts. So the guy at the top said 'We're not good enough. We have to completely change the way we do things'. There was some restructuring, there were some new people put in and all of the different Directors were told to get better.'*

Baseline measures of service outage, developed in 2002 were used as a basis for targets for reduction in subsequent years. A target of 35 percent reduction in 2003 was not achieved, but a 2005 target of 50 percent was achieved.

The poor level of satisfaction with IT services led to a concentration on improving service processes in order to reduce outages. Improvement in service processes would, it was expected, lead to the internal IT Service Delivery Function becoming the supplier of choice for internal customers. There was a perceived lack of processes in IT services. Processes that were present focussed around individual IT services support tools. In other words, where processes were generated, this was driven by the requirements of a piece of supporting software. Systems which had been in place for about 20 years supported the change management process. Another process, problem management, was supported by its own database. Additionally, as a result of many business mergers over the years, there were about nine different processes for dealing with helpdesk calls. Different helpdesks were inherited from

various business units. The focus of the IT service operation was on using support tools, on the technology rather than people and process:

> *'We'd think 'Oh yes we know you've got the triangle (people process and technology)' and they'd all say they were doing the people and the process bit, but in reality, there was just the technology bit, the rest of it - you paid lip service to the rest of it.'*

The ambition of IT Service Delivery was then to be process-led. Hence there was a need to identify where such process definitions would come from. The IT Service Delivery Function was already engaged with an IT consultancy, and the Bank pursued a joint operation to improve technology, people and process. The IT consultancy firm had their own process framework which was initially followed, but was later replaced with ITIL.

An interest in ITIL had begun to spread at grassroots level within the organisation. As people found out about ITIL and thought it was the right thing to do, a groundswell of opinion developed. This led to the development of senior management awareness of ITIL as a source of service processes. There was no business case developed for ITIL, rather it was seen as part of a larger transformation of the Group IT. The Director of Service Delivery ultimately made the decision to go with ITIL because it is an industry standard. This led to the appointment of a project team with a Process Architect managing a team of 10 Process Managers in 2003 of which two thirds were consultants and one third IT Service Delivery Function staff. This team was expanded to 18 in 2005 in pursuance of BS 15000. The team worked full time on ITIL implementation and BS 15000 certification. Normal operations carried on in parallel and the project team expanded and contracted as the project progressed. At the end of 2005 all the consultants moved on to other projects, leaving the in-house staff to be self-sufficient.

The support of senior management in the group was obtained early on in the project by sending 10 managers of major functions, including the Service Delivery Director, on a three day ITIL foundation certificate course during which they were required to sit an examination.

3.1 Initial actions

The first activity was to identify what services the IT Service Delivery Function provided. A service catalogue was developed and 80 services identified. For these services, service maps were developed which showed the software and hardware involved in the service. The service maps could then support change management and the population of a configuration management database, enabling connection between systems, services and service level agreements.

Within the team, Process Managers were allocated for each major process, and given seven project milestones. Gap analysis was conducted to compare current processes with the requirements for BS 15000 and an implementation plan for the improvements was worked out for each process. As new processes were developed, Process Managers were asked to break their processes down to identify ten measurables which would indicate that the process was being used properly. These measurables became the basis for process performance dashboards which indicate the progress of each process team in improving performance.

The links between the processes were worked out through discussion between Process Managers. In particular, a one-day workshop was used to develop a process map of the linkages between different IT service processes. Throughout the project, ITIL publications were used extensively.

3.2 Training

A core element of the ITIL implementation was a large training exercise, exposing over 1000 employees to the principles of ITIL and explaining the context for change. This training was done using a business simulation game provided by an IT services consultancy which brings home the necessity of IT service processes using a simulated environment. Two such games were evaluated and one which was based on a shipping port and keeping the lighthouses going and the shipping lanes

open was selected. Staff were trained in groups of 15. Each session was introduced by a member of the project team who explained the purpose and put the simulation exercise in context. Sessions were done at all 20 sites across the UK.

The training program, which represented a significant investment, was part of a larger communication program to change the way people worked. Lunch-time information sessions were well attended. A substantial part of departmental awaydays were devoted to defining and reviewing service processes. Members of the project team visited all sites, speaking to every staff member and holding thousands of meetings.

3.3 Process change

At the same time processes were being changed. A general problem management process was replaced by separate incident management and problem management processes. Change management was revised in two iterations. In 2003 change advisory boards were introduced as part of the reorganisation of change management. Configuration management was introduced as a process, started from scratch 18 months before BS 15000 certification. New processes were designed and then supporting computer systems implemented. Very late in the project, proprietary helpdesk functions for configuration management were implemented. After gaining BS 15000 certification, Peregrine software was implemented to support helpdesk functions and change, problem and incident management. A previous implementation attempt in 2002 failed because of a lack of defined processes.

3.4 BS 15000 and ISO/IEC 20000

A concentrated effort to ensure processes conformed to the BS 15000 standard occurred in 2005, resulting in BS 15000 certification in January 2006 and ISO/IEC 20000 certification in July 2006. During 2005, 60 percent of the IT Service Delivery Function changed. Staff were transferred to new positions, their roles changed, and new processes allocated. These changes were part of the overall reorganisation of IT Service Delivery Function and not part of ITIL implementation, although ITIL implementation could benefit from it.

The Manager compared BS 15000 with ISO/IEC 20000 and identified 16 major changes in processes, procedures or reports for the IT Service Delivery Function. A folder was prepared to provide evidence of the changes and the audit for transition to ISO/IEC 20000 was found to be much less of a challenge compared to the initial BS 15000 certification.

The service process project resulted in a reduction of service outage of 65 percent compared with the 2002 baseline. This resulted in many fewer incidents and problems and enabled a reduction in staff of 30 percent. The service is now viewed as acceptable by the customers and the focus has moved to cost effectiveness and speed to market in project delivery. In 2005, the IT Service Delivery Function responded to a tender to provide IT services for another company in the Lloyd TSB group. Their bid won. This was seen as another successful result of the service improvement project.

4 AN ACTOR NETWORK PERSPECTIVE OF SERVICE PROCESS IMPROVEMENT

The process of adopting standards is one of moving from an adhoc approach within the organisation to a set of work processes and behaviour which align with a set of rules perceived to represent best practice. This is true of any standardisation processes. Standardisation processes aim to align behaviour like using a magnetic field to align water molecules.

There are two distinct processes involved in standardisation: the selection of the standard to be followed and its inscription, and the transformation of the organisation’s service processes to align with that standard. This case study illustrates both processes. ITIL is selected, along with its BS 15000/ ISO/IEC 20000 certification standard following a brief consideration of a proprietary approach

from the IT consultancy firm. A groundswell of opinion builds and is reinforced by the support of the Director of IT Service Delivery for ITIL. Thus selection of ITIL is not primarily a rational process, nor a step-by-step analysis of the business case (no business case is provided for ITIL adoption), nor a reasoned evaluation of ITIL against CobiT, the IT service capability maturity model or any proprietary offerings. It is rather the result of an accumulation of social forces which is reinforced by a number of messages, in particular, 'ITIL is industry standard'. This results in the acceptance of ITIL. Almost like a black box whose philosophy, origins and in-built assumptions are accepted unquestioningly. The standards become a natural part of the fabric of organisational life.

The process of implementing ITIL standards at the Bank involved the transformation of service processes to align with ITIL. A range of strategies were used to establish social alignment by persuasion and gentle coercion in order that individuals' behaviour and practices will align with the ITIL way of doing things.

Actor Network Theory (ANT) provides an explanatory framework for exploring how a network of actors communicate to align actor interests around the development of an artefact or, as in the case of ITIL implementation, the establishing of a social and technological arrangement (Latour, 1987; Law, 1986; Callon, 1986; Callon, 1999). Establishing a standard requires the aligning of the interests of actors within the network. Actors enrol others into the network. As the interests of actors within the network are aligned, the network becomes stable and the standards entrenched. ANT suggests that the aligning of the interests of actors in the network involves the translation of those interests into a common interest in adopting a standard such as ITIL. This translation is achieved in the network through common definitions, meaning and inscriptions attached to the service activities. The actor network must firstly grow to reach a critical mass and then reach a state of stability. If the network remains unstable, it can disappear as quickly as it emerges, and the standard becomes obsolete. In order for stability to be established so that the standards become embedded in work practices, the notion of irreversibility must be established. The IT Services Group must reach a point where it would be impossible to abandon ITIL and revert to previous practice.

In adopting ITIL, a series of messages are promulgated through the organisation. These messages constitute a network of influences and connections as perceived by the actors. These may be presented in a cognitive map.

In this study we use actor network theory and cognitive mapping to identify the mechanism and strategy by which actors are enrolled in the ITIL network and cognitive mapping to chart the network of messages and causal links which are used to translate employees interests into the interests of ITIL.

ITIL may be viewed as a conceptual or virtual actor. It is a set of ideas, in the same way as a service can be viewed as a concept. Services do not have tangible existence. They are intangible, and consist of ideas that are then implemented. Members are enrolled into the actor network to serve the needs of a concept for a service. Actor networks involve non-human actors which may be physical technologies, information systems or markets (for example a telecommunications market Gao, 2005). Hence the goal of the actor network at the Bank is to recruit actors to conform to the set of service processes which ITIL defines. The service concepts represented by ITIL are inscribed in a set of ITIL publications which:

> *'were used the whole time. I've got bound copies of those all over my desk. We couldn't have done it without the ITIL books.'*

4.1 Developing a corporate mindset

The development of an actor network involves management activity in enrolling staff into the network. This requires management showing how their interests align with the needs of the standards. Messages are delivered and activities carried out with the goal of changing behaviour such that employee behaviour fits with the service processes.

In the Bank there was ample evidence of a range of enrolment strategies being enacted. These strategies support messages initiated at the top:

> *'Group IT is all the different directorates, there is Service Delivery (our organisation), Project Delivery and then there's some other bits around that, CTO organisation and the CIO organisation and various supporting parts. So the guy at the top said 'we're not good enough. We have to completely change the way we do things'.*

Such a message was part of a network of concepts, causally linked, which form the basis of a cognitive map spread throughout the organisation. The use of cognitive maps has been a feature of strategic management, strategy development and decision making over the past decade (Tatnall & Gilding, 1999). Cognitive maps provide a simple and intuitive means of highlighting important strands of thought. In particular, they have been a core aspect of the Strategic Options Development and Analysis (SODA) (Eden et al., 1992; Ackermann & Belton, 1994; Eden & Spender, 1998; Eden, 1988). SODA involves the creation of individual cognitive maps and their synthesis into a group cognitive map which provides a network of ideas expressed in the language of the participants. The process generates rich models that lead to changed thinking and action rather than planning. Cognitive maps have been used in IT strategy development (Smith et al., 1995) and for business education in IT implementation (Fleck et al., 1996). However, they have not been widely used by information systems researchers and practitioners. Key concepts are identified and described with short, characteristic phrases which are quotes directly extracted from interview transcripts. In some cases a concept may be clearer when its opposite is recorded, the two being connected by three dots. Relationships between concepts are indicated by arrows. Arrows can also be used to indicate dependency, negatively signed if the effect is deleterious.

The cognitive maps resulting from the analysis of the case study reveal a message and a communication strategy to communicate that message. In figure 1, the message arises from a series of causally linked concepts. A perception of the inadequacy of the IT Service Delivery Function is interpreted as a warning sign of the possibility of outsourcing. Jobs are on the line if an improvement strategy doesn't work. The strategy in response to an assumed move towards an IT services market is to position the IT Service Delivery Function as the best supplier, the supplier of choice in a competitive market. This will be done by having better processes, which will result from striving for BS 15000 accreditation. Thus BS 15000 accreditation is linked to the employees' basic need for job security. Enrolment in the actor network is translated into a basic human need.

BS 15000 is linked to processes and process orientation. This transformation must focus on processes. Two contrasting pairs of concepts can be identified. The process-led organisation is the preferred alternative to fire-fighting. In addition, strategic process development must occur before the selection of any computer-based tools. A focus on the tools is seen as deleterious to developing processes. The message is that certification will only work if service processes are addressed.

This series of messages must be promulgated through a communication strategy. The series of activities which are employed to put across the message and enrol employees in the actor network are derived from a set of concepts, portrayed in figure 2 (the second cognitive map) which constitutes the communication strategy. Geographical distribution and strong leadership drive a communication strategy which critically involves fixing the context for job change, task change and new processes in peoples' minds. The change in mindset will come out of an understanding of the context. The communication strategy then addresses the mode of presentation, arising from a contrast between talk-based training and training which involve delegates in business simulation activity from which they draw their own conclusions and hence proactively align with the actor network.

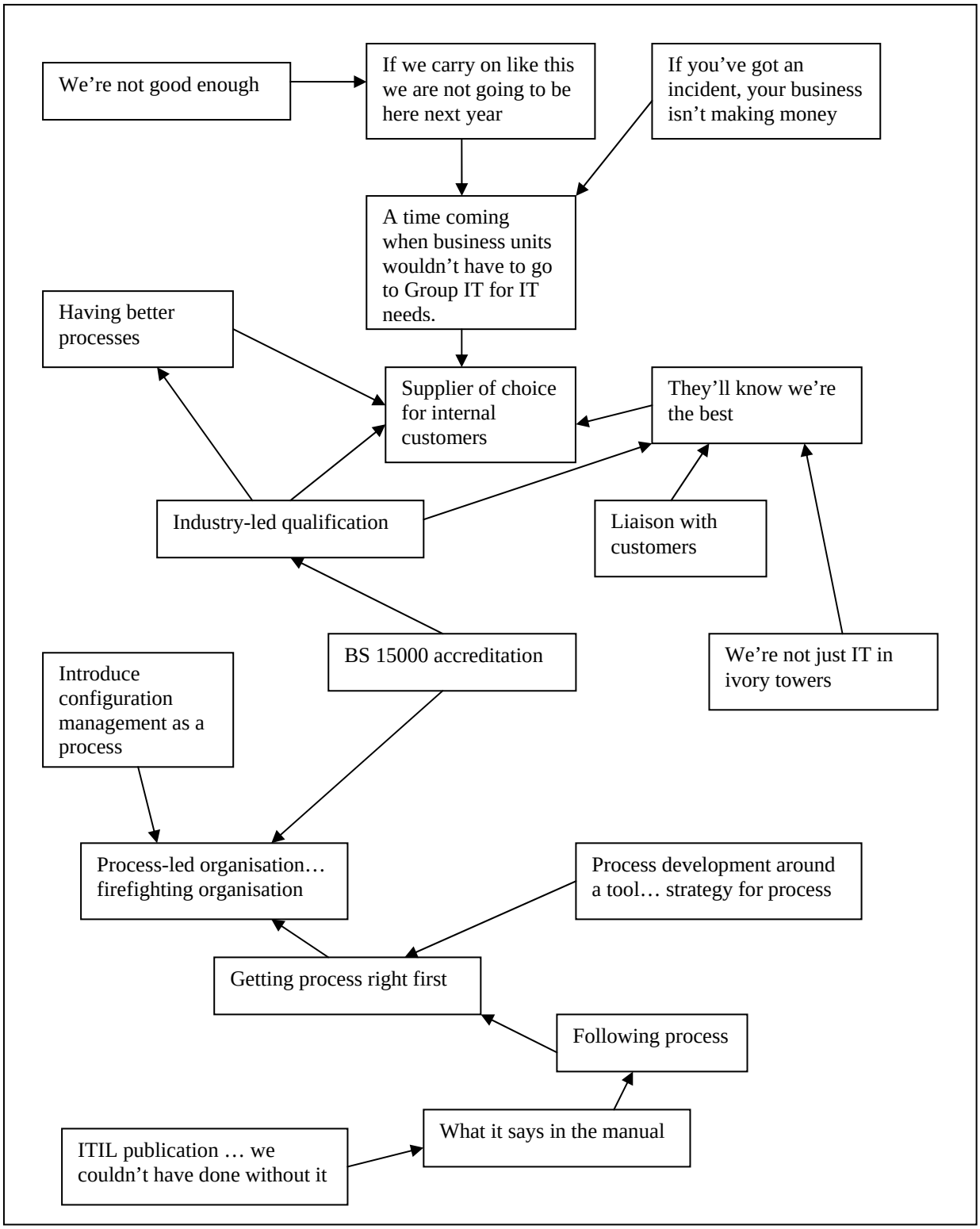

Figure 1. Cognitive Map of the BS 15000 Accreditation Message.

This conceptual mindset would lead to a change in mindset, an aligning of the corporate mindset with the demands of ITIL and ISO/IEC 20000. A series of activities were then required to spread the messages and enrol actors into the network. In understanding the cognitive map of the service improvement manager, motivation for the actions undertaken can be derived.

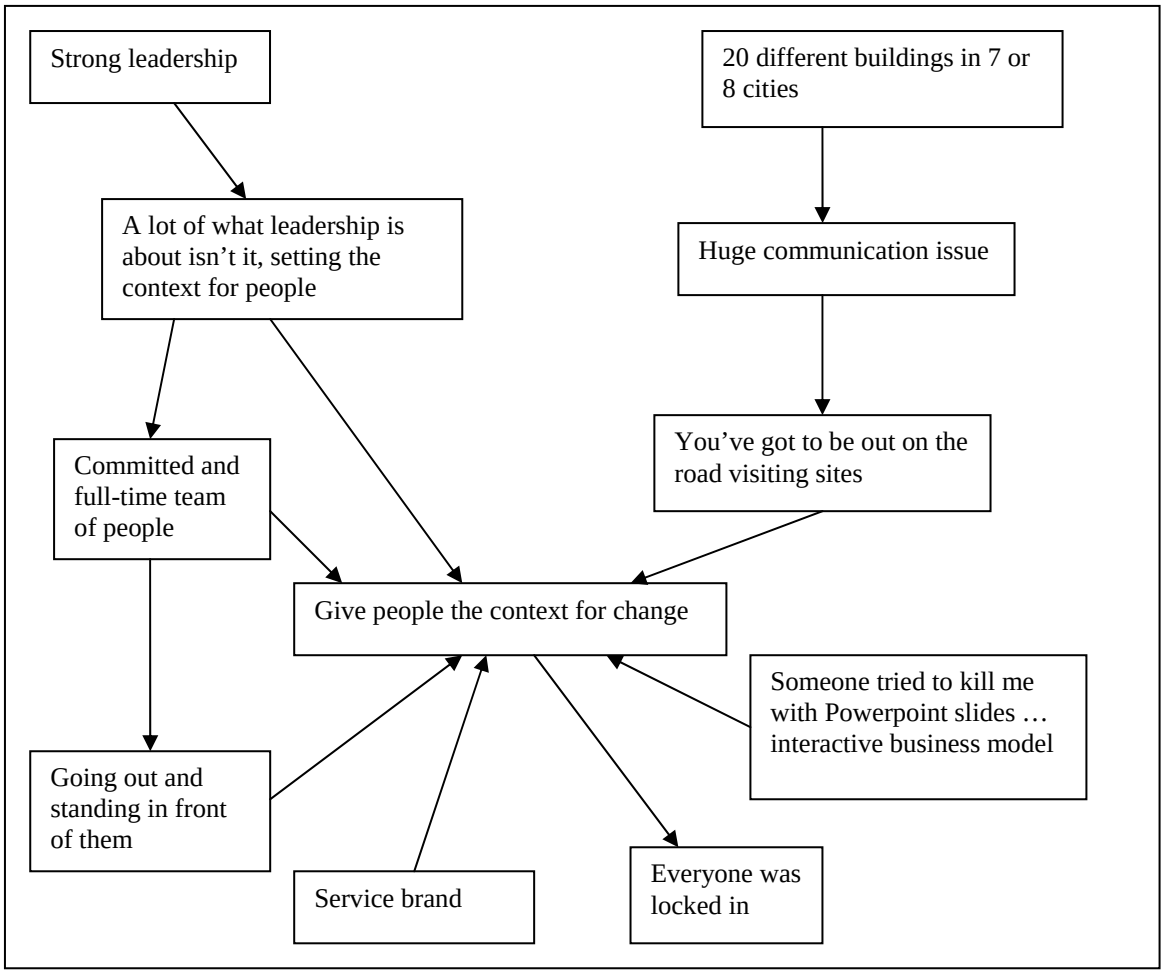

Figure 2. Cognitive Map of Communication Strategy

4.2 Enrolment strategies: winning hearts and minds

A variety of management strategies are evident within the case study in enrolling IT service staff to the interests of ITIL, and hence in changing behaviour to align with the service processes. Managers may describe this as getting 'buy-in', and there was a clear awareness of the importance of senior management buy-in:

> *'All the manuals say this, you've got to get senior management buy-in, there's no point if you don't get senior management buy-in. If I was ever offered the opportunity to do it again and there wasn't senior management buy-in, I wouldn't even start it because it just won't work. And by buy-in, I don't mean a bunch of people sitting around a table saying 'yes, you can go and do it', I mean them giving up people to actually go and do this full time, so you put money up for training. The biggest thing is you can change the way 1,000 people work but it's going to cost you some time, money and effort to do it.'*

Support was clearly present from senior management, reflected in the 'we've got to change' message and the Director of Service Delivery's decision in favour of ITIL. However, such management support was not taken for granted but cultivated. All senior managers were enrolled in the network and this was underpinned by all the executives attending an ITIL foundation course. There is a sense of a project initiative proactively gaining behavioural alignment from senior managers:

> *'We sent them all on a three day ITIL foundation certificate course and made them all sit the exam so they knew what we were talking about.'*

The restructuring of the organisation and the allocation of new staff roles was either part of the enrolment strategy, or seen as helpful towards enrolling staff to the interests of ITIL even when it was not a direct consequence of ITIL implementation. In 2005, for example, 60 percent of the organisation changed its structure, resulting in changes of jobs and new roles. This restructuring was used opportunistically to enrol staff into the actor network:

> *'we were able to put people into new jobs and say 'this is the process you're going to follow and here's all the procedures and job aids you'll need to help you'.'*

The restructuring could then be reinforced through management reporting mechanisms. Balanced scorecards identify measurable, tangible targets for employees concerning financial efficiency, obtaining customer satisfaction, improving service processes, and learning and growing through education and training. Targets connected to getting BS 15000 were put in balanced scorecards so staff were encouraged to join the ITIL actor network.

Enrolment into the ITIL actor network was accompanied by reinforcement of links, by strengthening the inscriptions within the network. Measurables, milestones and targets helped focus committed staff on the purpose of the network and the service of the interests of ITIL and hence support a gradual shift towards black box status. A significant event which may have strengthened the network was a one-day workshop in which the various process managers investigated the link between the different service processes:

> *'I remember quite clearly when we had a whole day workshop where we sat down and went through all the process documentation. We started with one process and where that actually said 'this is a link to another process' … We had paper around all the walls and it was so complicated, it was a really really tough day'.*

Such an activity may have strengthened the resolve of actors in the network, by emphasizing the importance and complexity of their work and giving participants a view of how the whole of ITIL framework fitted together.

Training was seen as an important instrument for enrolling staff into the actor network. The Process Architect sought substantial funding to provide training for all IT Service Delivery Function staff. By shifting people's mindset, new service processes could be embedded into the organisation:

> *'my view was if you don't give people the context of change, i.e. you don't help them to understand what we're trying to do, and what the processes are, and why we need them, then you'll never get their buy-in.'*

Hence, understanding the context of change would be instrumental in showing staff how their interests aligned with the interests of ITIL. There was further understanding that making this connection required careful attention to the nature of the training and to how participants connected with the training. Passive training as an ITIL overview – 'killing people with Powerpoint slides' – was rejected as being an approach that was likely to alienate people from the actor network. An interactive business simulation game was selected. By using an analogy, which connected with the participants at an emotional level and engaged the participants in problem solving, an understanding of the critical nature of service processes was established. Furthermore, the enjoyment and mental simulation offered by the business game created a positive impression of the enrolment exercise. People were more willing to align their interests with ITIL following an enjoyable experience which 10 percent of participants considered to be the best course they had every been on. The ITIL course, like the linkage exercise for the senior managers, acted as an emotional turning point as well as an intellectual awakening:

> *'I was in some of these meetings and you can almost hear the penny drop, these people have worked for years and years in IT and know there's a business out there somewhere but it doesn't really affect them and you suddenly realise that if there's an incident, then the*

business isn't making money, that affects the share price, that affects our profits, that affects their bonus, that affects everything, so you must work flat out to get the incident resolved'.

If the actual exercise acted as a strong translator of actor's interests, the project team were not content to leave it at that but insisted on introducing every session in person. Members of the team introduced every occurrence of the training session, which involved training 800 people in groups of 10-15. Team members would explain what the purpose of the session was and emphasis its alignment with the participants' interests:

'We're changing the organisation, this is your opportunity to find out why, you have to learn the terminology, to learn the lessons of', then we could say 'the reason why we're doing this is because these guys are who pay our wages, the business units. If we carry on the way we were, we're not going to be here next year, our jobs. So this is why you have to improve'.

These introductory talks were part of a sustained effort to spread messages which identified the alignment of interests. The brown bag lunch sessions and presentations at various departmental meetings formed part of the strategy:

'Some of the feedback we got from some of the senior managers that would walk past and say 'What's going on in that room? There's 40 people sitting there on a Friday lunch time listening to a discussion about some process. Why on earth would people want to? Process is not a sexy concept'.'

As the project progressed, the project group further focused on communication. This intense communication involved a strategy to see everybody seven times, repeating the message until everybody got it:

'We just decided, well let's make sure we go and see everybody seven times. 1,000 people. That means you've got to do 7,000 conversations. I said to my project team, 'this is the cause, you've got to be on the road, you've got to be out there just telling people it's tough days'.'

The message was further reinforced by signs and symbols installed within the physical environment. At the head quarters, where the interview was conducted, signs were visible everywhere: 'Service Matters', 'Service is number 1'. Display screens would show service going down in realtime. Artwork was developed and suggested by employees and installed in foyers. Service outage figures were displayed in every lift. These inscriptions reinforced the message, encouraged enrolment into the network and bolstered the network itself.

4.3 Prerequisites: stony ground and good soil

The enrolment strategies employed by the Process Architect may have worked because the underlying cultural ground was fertile and ready to accept messages concerning the importance of ITIL. Besides managerially driven strategies, a general awareness of the importance of ITIL was spreading through the actor network. This not only contributed to enrolment to the network, but may also have strengthened links within the network:

'*we had a groundswell of opinion which was saying to these guys that we should be following [ITIL]… because people were telling [the Service Delivery Director]it was the right thing to do, so he went and found out more about it and agreed with them, it was the right thing to do. So it kind of went from the bottom to the top then came all the way back down again.'*

Hence messages from the top were being reinforced by bottom-up support.

When messages are sown, there must be some acceptance and willingness at the start. Cultural understanding is needed. Here a groundswell in favour of ITIL provided good soil. People would turn up to meetings. Discussions were animated; there was an initial willingness to move with the changing mindset. Such goodwill may have made it easier to establish the actor network, but this does not detract from the need for effective enrolment strategies. Before the point of irreversibility is reached,

the network is inherently unstable and fragile. Inappropriate messages can easily disrupt the network. Insensitive training which did not engage participants could easily put people off ITIL. A lack of senior management support and engagement by the project team could have created a 'them and us' atmosphere in which resistance to new service processes built up. Some resistance was experienced as an effect of the history of mergers and the distribution of IT service staff across several buildings.

5 CONCLUSIONS

A previous study by Hochstein et al. (2005) suggested that the greatest challenge faced in an ITIL implementation, as in service process improvement, concerns overcoming the lack of acceptance of new processes and the lack of understanding of why such changes are necessary. Using actor network theory as a structure for analysing a case study of ITIL implementation and ISO/IEC 20000 certification in a bank, this paper illustrates the importance of enrolling employees into an actor network to promote the interests of ITIL.

This paper illustrates the power of actor network theory in explaining and structuring the activities of managers in their practice of service improvement. Additionally it shows how cognitive mapping can be connected to an actor network analysis to tease out the underlying mindset and connected concepts which drive the enrolment activities and influence the translation of participants' interests.

Finally the case study illustrates a rich set of lessons to be learnt from successful implementation of new service processes. Communication is at the heart of such a transition. Managerial instruments such as organisational restructuring and the definition of new roles and processes must be backed up by sensitive and appropriate communication which provides a rationale for the changes, sets the context and draws people in.

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