

NUCLEAR ENERGY AGENCY  
RADIOACTIVE WASTE MANAGEMENT COMMITTEE

## Forum on Stakeholder Confidence (FSC)

## ORGANISATIONAL CHANGE: CULTURAL AND STRUCTURAL ASPECTS

Proceedings of a Topical Session held during the 7th Session of the NEA Forum on Stakeholder  
Confidence, 7-9 June 2006, Paris

*The FSC has performed detailed study of the cultural and structural changes that radioactive waste management organisations have undergone as they respond to stakeholder expectations. A topical session was held in June 2006. Firstly, the desk study (including member questionnaire responses) on this topic was summarised. This was followed by the reflections of experts involved in research on theoretical and practical aspects of organisational change. Four presentations and a panel discussion addressed the following questions : Does experience in the RWM field reflect that in other sectors? What are the main reasons for the differences? Do long-term environmental issues play a role? Does change come only after a crisis? Are there any factors that hinder or facilitate change? What can be done to sustain changes over the long term?*

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## **FOREWORD**

The Forum on Stakeholder Confidence (FSC) was created under a mandate from the OECD Nuclear Energy Agency's Radioactive Waste Management Committee as a means to increase confidence in the decision-making process on long-term management of radioactive waste by facilitating the sharing of international experiences in addressing the societal dimension of radioactive waste management and increasing the contribution of stakeholders in the development of radioactive waste management programmes.

The Forum was launched in August 2000 and today includes representatives of national regulators, implementing agencies, policy makers and R&D scientists from 15 OECD countries.

Following the FSC's self-evaluation of its first phase, organisational change was identified as a key topic for the Phase 2 programme of work. In order to better understand the recent cultural and structural changes within radioactive waste management organisations, the FSC launched a process including a questionnaire survey carried out amongst FSC delegates, the preparation of a desk study, the topical session documented in these proceedings and the publication of the main lessons.

These topical session proceedings contain Dr. Anna Vári's presentation of the main findings of the desk study and questionnaire survey. These proceedings also provide texts of the oral presentations from Mr Rochet of the French Ministry of Research and Marseille University; Professor Rohrbaugh of Rockefeller College of Public Affairs and Policy; Prof. Dr. Birgit Blättel-Mink of J.W. Goethe-Universität, Frankfurt-am-Main and Prof. Andrew Puddephatt, Visiting Fellow at Centre for the Study of Human Rights in the London School of Economics. The summary reports, the main messages as well as the FSC discussions of these presentations, addressing questions such as: Do the changes in the RWM field reflect those in other sectors? What are the main reasons for the differences? Do long-term environmental issues play a role? Does change only come after a crisis? Are there any factors that hinder or facilitate change? And what can be done to sustain changes over the long term?

## **Acknowledgement**

Many thanks to Elizabeth Atherton (Nirex) for the summary of presentations and the ensuing discussion at the topical session.



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## **SUMMARY OF TOPICAL SESSION**

As part of the FSC study of Organisational Change: Cultural and Structural Aspects, four professionals presented case studies during the Topical Session held in June 2006. Their presentations are summarised here. Discussion by the FSC of the presentations and of the results to the member survey is also summarised.

### **Making crisis a momentum for change**

Mr Rochet is a civil servant in the Ministry of Research and he is also part of Marseille University.

Change can be both qualitative and quantitative. Qualitative changes are usually changes in the organisational structure. Quantitative changes (size, wealth) can come about when qualitative changes are not acceptable or not working and change itself can be both adaptive or disruptive. When a system stops working you need to make changes. However, every organisation to some extent wants to stay in the same state.

In terms of private organisations, they get a quick feedback from the market about whether their current structure is working. For public organisations, they need to create feedback loops in order to adapt and to change, otherwise they can run into crises.

If an organisational structure is resilient enough, it is able to regenerate itself after a shock or a major crisis. If an organisation is resistant to change, then it is less resilient to outside influences and changes and therefore struggles. Mr Rochet presented a great number of cases to illustrate these points and draw conclusions for managers and policy makers facing change.

### **Sustaining organisational change**

Professor Rohrbaugh outlined how organisational change can be sustained.

There are natural tensions in an organisation with respect to achieving goals and internal and external aspects. Modelling work on organisations indicates that it is important for organisations to have strengths in four domains (human relations, open system, internal processes, rational goals) in order to sustain change. Organisations should not set out to change without checking that they have the needed strength in their human resources to enable change; they should also rationalise their goal areas.

Leadership is key in terms of maintaining and implementing organisational change. For an organisation to be effective the leaders need to be effective in each of the four different domains and each individual has to fulfil each of the eight roles which are associated with organisational change. This is difficult because the roles often conflict; for example monitoring and coordination are in conflict with innovation and brokering.

To implement systemic organisational change, senior management need to play a key role and they need to innovate but they also need to monitor and coordinate the changes. Sustained changes go

wrong because once the change has been initiated some managers think that their role can move on, but to give effective organisational change they need, over the long term, to be monitors and coordinators of the change.

In order for an organisation to be effective in decision making it needs to have certain characteristics. Decisions need to be participatory for them to be a supportable decision which has group ownership and commitment. There needs to be evidence and data so that the decisions can be accountable and open and transparent.

Decisions need to be on track, goal centred and have clear targets and efficiency and there also needs to be flexibility and adaptability to make sure that the whole process is legitimate.

Change is the end of a long process. In any systemic change there are several stages. It is important first of all to diagnose what the problem is that needs some sort of change and then to identify the solution to the problem and implement it. Different decisions are needed in each stage and there needs to be planning for change recognising that it is a long-term process. The long-term nature of the process also requires that there are different stakeholders involved at different times and this will affect what happens in each stage.

When organisations do not put effort into all three stages of the problem solution (identifying the problem, proposing a solution, designing an implementation approach) then changes won't be sustained in the long term.

### **Implementing transparency**

Andrew Puddephatt outlined his role within Nirex as Chair of the Independent Transparency Review Panel. This acts as an appeal mechanism and checks Nirex's work. It looks at the business plan and how this is related to transparency. It also looks at policies on freedom of information and environmental information regulations. If people ask Nirex for information and it refuses to give it then they can appeal to Nirex and they can also appeal to the panel. The panel provides advice to the board and it gives information to Nirex on transparency. This is in addition to people's legal and statutory rights and it makes it easy for people to get information.

Nirex has also set up something called preview in which it enables debate on the scope of the work it is going to undertake before it does the work. The debates have included NGOs and local authorities to identify their concerns.

It was impossible to convince people that Nirex was working for society when it was owned by the industry so Nirex's shares have been moved to the Department of Trade and Industry and the Department for Environment, Food and Rural Affairs and it has been given a new board.

The most contentious issue that Nirex had to deal with was the names of the sites that were previously investigated prior to the decision to focus on Sellafield. The transparency panel criticised government and Nirex for two years about the decision not to release the names. When a government decision was made to release the names Nirex prepared carefully and managed the release of the information including the context so there wasn't any public concern or change in property values in the areas that were named.

To do this Nirex worked very closely with local authorities and developed a strategy for releasing the site names. The panel believes that openness is always the best policy. There is still an issue to do



with copyright for journals that Nirex write for and then cannot release the information to the public. This is something that still needs to be addressed.

A review of Nirex's stakeholder attitudes has shown that they are good at providing information and are very accessible, that they are confident and flexible, that Nirex listens, that people see them as being independent of the industry, that their staff are competent and that Nirex collaborates well with international organisations. The situation is influenced by the leadership of the company and then working with staff they made changes.

Real change needs leadership from the top and it needs sustained leadership over the long term. It has taken eight years to date and it will take longer to complete the change. Nirex did develop visions and values from the bottom up to support the top down mandate from the leaders. The lessons learnt from Nirex have also been put in place in the NDA and CoRWM with respect to openness and transparency and therefore they have been applied wider in the UK context.

### **Experience with trying to sustain organisational change**

Professor Birgit Blattel-Mink is a sociologist involved in innovation and sustaining innovation within organisations. Her work is focused on combining organisational and economic innovation and sustainable development.

In general, you cannot sustain a change in the long term.

There are three types of change:

- Development change where the organisations grow or expand or crystallise their structure;
- Selection change where an organisation is an open system and there is a change in the organisational system;
- Organisational learning where knowledge management and development takes place within the organisation.

If you want to sustain organisational change you need to think about the issues that the company is addressing and look at incremental innovation coming from the outside of the organisation. Often change comes from stakeholders or sustainable development and this is often the driving force. Increased stakeholder involvement is not just related to products but how products are used and the impacts they have on people. There can be a conflict between sustaining change and organisational learning cultures. Organisational learning requires different objectives over time and this means there needs to be change and innovation.

Sustaining change means keeping things the same over time. However, for an organisation to learn it needs different objectives over time. What is important is being able to sustain good changes over time but adapting other areas.

Sustaining stakeholder integration is a good change that organisations should sustain to help them to learn and develop. There are different types and modes of learning and it can be either groups or individuals and there are also different stages of the learning process that need to be gone through. Sustainable stakeholder learning requires the integration of stakeholders into all stages of a change.

Learning from and with stakeholders challenges the involvement of all related interests. You need to involve all stakeholders committed or involved in the problem. The aim is to develop win-win situations that involve all stakeholders and those representing certain quarters, for example nature.

It is also important to work with a common language across organisations. You need to have someone who builds up and maintains the network of stakeholders and interaction with them to prevent people leaving the network.

All members of the network need to support the research that is being undertaken and be willing to act on the results of it. There needs to be a level of trust between the organisations and a power balance.

There are two questions that need to be addressed:

- What conditions have to be in place for organisations to really have stakeholder integration?
- Under what circumstances are ‘good change’ and organisational learning compatible?

The following need to be in place to address these questions:

- Recognition that stakeholder integration is consistent with economic logic;
- Participation of the organisation in an inter- and intra-organisational network of problem solving;
- Institutional frameworks that foster ‘good/sustainable’ change.

The context an organisation works in impacts its approach, for example:

- The organisation’s size, sector and lifecycle;
- The environment: innovativeness, ecological/sustainable commitment;
- National context: culture, political system, institutional framework, economic structure.

To summarise:

- There is no best practice;
- An organisation needs to recognise that it cannot solve its problems on its own;
- Stakeholder integration has to be rational for the organisation;
- The organisation needs to work in collaboration with its stakeholders;
- There need to be clear leaders in the process.

## **Discussion**

The following outlines the discussions that took place after the presentations.

A question was asked of when the Nirex Independent Transparency Review Panel would consider that its work is done and no longer needed. A. Puddephatt replied that this largely depends on how the public see Nirex and other organisations. The Independent Transparency Review Panel is in place to give reassurance that there is oversight. Even if organisations perform well they are often still distrusted which suggests that the panel mechanisms will still be needed for a while.

A similar approach is not needed in Sweden or Finland because there is a high trust in public authorities from the public, but the Scandinavian countries are very rare and openness and transparency have been part of their systems for a very long time.

A question was asked about why there was no best practice.

If you think of stakeholder integration as a form of interrogation of the organisational network, it performs differently because of the members that are involved. Therefore one size does not fit all. Organisations get involved with stakeholders if they need information to be able to solve the problem that they are facing and each problem is unique and therefore needs different stakeholders to be involved.

There are many different stakeholders but you may be able to divide them into groups. In each country there are different stakeholders but there are common stakeholders that you need to deal with in similar ways in different countries.

Being in the network of radioactive waste management means developing support for change in the culture and structure of organisations to help them to deal with similar issues that are experienced in the different countries.

Does change only come after a crisis? For example, in the UK there was a big spend before the crisis and then a change of approach after the crisis. Is there a way to identify a crisis is coming and do something to avoid it? Can we put feedback mechanisms in place to enable organisations to avoid crisis?

If you are able to develop a network that does not start with a fixed situation, for example, I have a concept and I want to convince others, rather than I have a radioactive waste management problem and want to involve stakeholders in the problem. Then it is possible to identify issues as you go along and involve stakeholders in solving them but every situation needs someone who is driving it.

Crisis can be defined as social acceptance towards risk, what society believes is acceptable risk. You need to identify what is at risk and what is the problem and what risk is acceptable. People can accept different risks for different situations for example smoking versus BSE and what we will accept in return for advances in technology. Open and flexible organisations are able to react to weak signals and amplify these so they don't need big crises to put in place mitigation measures.

You cannot avoid crisis in most walks of life, you need to see crises both as a threat and as an opportunity and you need to build organisations that are able to cope and build something constructive out of a crisis.

There is often a situation where when a company starts to be open and transparent there is sometimes a decrease in confidence in that organisation when they release information that is disturbing for example saying that there is pollution in an area. Controlled release of information is very important to decrease panic and worry. Some may say a managed release of information is against transparency but it is very important to manage releases of information, not to manipulate or distort the information, but to explain the decisions and processes that led to the release of the information so people can understand the situation.

If people do not have a good briefing on the underpinning science and decision-making process there will be misinterpretation or people will create interpretations of their own so putting the context in place is equally important.

Organisational networking involves trying to understand which group of stakeholders to involve first and which ones can be involved later. It depends on the problem an organisation is trying to solve and who is concerned and involved most.

It is not possible to define a hierarchy that applies to all situations; it depends on the stage in the decision-making process and the issue being addressed.

The NWMO in Canada tried to raise the social discussion of risk and put in place feedback mechanisms so that social values could be integrated into the programme. The idea that they have put forward is to develop a collaborative process for the implementation process. However, it must be recognised that stakeholders change throughout the process and there could be a disconnect if new stakeholders emerge over time. Also it must be recognised that it is difficult for some stakeholders to remain engaged in the process over the long term.

Members of the network change through their involvement in the network and the network itself must be recognised as an evolving entity.

In terms of risk perception SKB did some research. Some risks are amplified and there is an outrage factor if people didn't choose the risk which they are exposed to, for example, a power plant that has been forced on someone. To understand stakeholders and who to engage first you need to understand their risk perceptions and the outrage factor and look at how this is influencing their involvement.

Members of the FSC want to change the members of their organisations to integrate stakeholders' views into their work so that it can enhance it. You must become the change you want to see in the world. You often still hear people saying that if they inform stakeholders better then they would accept someone's work. Stakeholders must be seen as a part of the solution to the problem. Not all stakeholders can be satisfied with the outcome of a decision but all stakeholders need to be treated with respect. There needs to be a fundamental change in the approach that people take to the public. It is important to understand stakeholders' views and what their concerns are, not just to communicate information out of respect or to manipulate them.

How we involve stakeholders in organisational change is the second stage in changing an organisation. Perhaps the most difficult part is the first question: What is the problem we are trying to respond to as an agency that means we need more stakeholder involvement? What are the problems or opportunities that need addressing and how do we develop the shared understanding of the problem? This can then lead to increased stakeholder involvement. This needs to come from senior management to ensure there is a fundamental change. It may be less threatening for people to engage with stakeholders if the problem arises first.

There is no best way in all situations. As social scientists, we may present a best way for a particular situation, but you need to look at the particular situation and the context. There are lots of different crises in organisations and organisations can be prepared or not, they can anticipate them or not, therefore you need to create organisational change in different ways in each situation. There are different decisions that have to be made. Some are one off, some are routine decisions, sometimes there is an obvious solution or a preferable solution or the solution does not depend on the weight you give to different aspects or it depends on making trade offs and these different conditions affect the best approach. Therefore, it is important to identify contingencies and how to respond to each situation.

To change an organisation you need to change the mindsets of the individuals, because organisations are made of the people and individuals and these are also involved in the network too. There needs to be a leader at the top but a change can fail if people in the middle are not willing to change. You need to try to understand why people do not want to change, whether it is fear, inability to adapt to a new approach or something else.

There is one constant thing that happens in life and that is change and we need to remove the fear of change in individuals, however, some people will not want to change or have the skills to change and therefore they may have to decide to leave the organisation. You cannot change people's mindsets quickly, you can change the environment, their interest in things and the situation around them and people may be able to adapt to external changes.

If the Human Resources Department is not functioning well then it is not wise for an organisation to do a systemic change. It is important to address distrust and dissatisfaction and poor communication in employees before making changes.

The executive management in an organisation has two key roles within change:

- They have to communicate the change showing it is consistent with the fundamental mission of the organisation and helping people to understand that they will be better off if they sustain the change. (People have to believe these two things otherwise change will not happen.) The senior management need to communicate clearly over time and develop clear arguments.
- They need to monitor and coordinate the change over time.

The precautionary principle says that when you discover a new technique, but there is a risk involved, you need to assess the risk first, before you implement the technique. There needs to be an analysis of the technology to decide whether it is acceptable or not and this should have stakeholder involvement in it.

A formal institution is a structure that you can change, however an informal institution is a set of beliefs that you cannot change overnight. People change through being involved in a process. You need best practice as a toolbox, the context affects the use of the toolbox, the solution will be a mix of values and context.

What we want to do is build stakeholder confidence therefore you need stakeholder involvement from the network point of view. It is important that staff believe that there needs to be stakeholder involvement not just for legal reasons, they need to see there is a real benefit from it and staff need to be involved in determining how to involve and engage stakeholders. It is important to listen to stakeholders and be ready to change and take on their views, but this will take time.

Time is needed to adapt to new situations or to work better. We have all faced crises, it is a problem, and there is a need to be able to define the crisis and then to change to respond to the crisis. Some structures resist change but crisis can be a form of question and a chance to actually ask about the way things are being done and see how to do them better.

We are in a complex situation with different science, politics, social aspects etc. Often we only give one type of answer, for example a technical answer, when there is a difficult situation. However, there are different dimensions and stakeholders have different views and they all need to raise their questions. If not there would be a crisis because certain questions are not being answered.

To address a crisis might require a change in the law or in the organisation, but day to day there are small crises and questions that need adaptation to current procedures.

Developing stakeholder confidence depends on getting the structure, process and behaviour of waste management organisations right. Waste management agencies have tried very hard in recent times to understand the situation that they are facing and the different types of changes in both social values and technical issues that have taken place over time.

The nuclear industry itself was established in a certain time in history and the situation and values have changed since then. Therefore, the approach of many waste management organisations has changed to recognise the different dimensions of the radioactive waste management problem including the social aspects as well as the technical aspects.

To develop this further, organisations need to share the responsibility for developing a solution to the radioactive waste management problem with the stakeholders. It is important to define the problem with the stakeholders and identify the way of moving forward.

Organisations need to try and understand the different changes that are impacting on them both external and internal influences and they need to develop independent feedback loops so that they can understand how changes in each of these areas can help.

Organisations also need the capacity to forgive and forget and to be able to move forward.

Working with stakeholders to develop a joint understanding of the problem and how to move forward is the only way to really address societal problems.

**FSC TOPICAL SESSION**

**ORGANISATIONAL CHANGE**

**TEXT OF PRESENTATIONS**





## SHORT REPORT ON THE FSC ORGANISATIONAL CHANGE STUDY: THEORETICAL ELEMENTS, QUESTIONNAIRE FINDINGS AND LESSONS LEARNT

**Anna Vári, Professor**

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Over the last decade, the socio-political environment of radioactive waste management (RWM) has been changing in a significant way. Several RWM programmes were rejected when stakeholders were not actively involved in their development. As a consequence, in most OECD countries a cultural change has taken place: stakeholder dialogue has become a lead principle in radioactive waste management.

The issue of cultural and organisational change has been central for the FSC from the very beginning. First, the 2000 August workshop offered views on the most important organisational-, mission- and behavioural features, which would characterise an organisation capable of achieving stakeholder confidence over long time periods<sup>1</sup>. Then, at the 2004 June meeting a Topical Session on “Addressing Issues Raised by Stakeholders: Impacts on Process, Content and Behaviour in Waste Organisations” was organised, which focused on the responses given by regulators and implementers to stakeholders’ concerns and needs. Eleven papers were prepared by FSC delegates to analyse the experiences of institutional actors in OECD countries<sup>2</sup>. The papers described how stakeholders’ views have been taken into consideration and how they have influenced decision-making processes. Less attention was paid, however, to issues of cultural and structural change.

The FSC Phase 1 Self-Evaluation and Way Forward Consultation indicated that FSC members are especially enthusiastic to further explore issues of cultural change and adaptability in their organisations<sup>3</sup>. Following a series of discussions, organisational change was identified as one of the key topics of the Phase 2 programme of work.

For the purpose of better understanding recent cultural and structural changes taking place within RWM organisations, FSC initiated a desk study, a questionnaire survey<sup>4</sup> between May and August

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1. NEA (2000) "Stakeholder Confidence and Radioactive Waste Disposal". Workshop Proceedings, OECD, Paris, France, 28-31 August 2000
  2. NEA (2004a), Topical Session on "Addressing Issues Raised by Stakeholders: Impacts on Process, Content and Behaviour in Waste Organisations", Proceedings, OECD, Paris, France, 2<sup>nd</sup> June 2004
  3. NEA (2004b), FSC Phase 1 Self-Evaluation and Way Forward Consultation. OECD, Paris
  4. Responses were received from 17 organisations in 11 countries, including Belgium, Canada, the Czech Republic, Finland, France, Japan, Spain, Sweden, Switzerland, the United Kingdom and the United States. Queried organisations included 10 implementers (ONDRAF/NIRAS, NWMO, RAWRA, Posiva, Andra, NUMO, Enresa, SKB, Nagra, and Nirex), five regulators (Canadian Nuclear Safety Commission (CNSC), Swedish Radiation Protection Authority (SSI), Swiss Federal Nuclear Safety Inspectorate

2005, and a Topical Session on "Cultural and Structural Change in Radioactive Waste Management Organisations" in June 2006 (these proceedings). This text summarises the main lessons drawn from the work carried out within the framework of the above process. A full report, exploring the desk study and questionnaire findings in more detail, has also been released<sup>5</sup>.

## I. Theoretical Background

Organisations are procedures, relationships, and practices created to coordinate human talents and efforts to attain common goals. They are called upon to change if there are evident problems in their ability to adapt to the environment, or if there are evident opportunities to be exploited through organisational change. Although crisis is not an indispensable factor of change, it often triggers organisational transformation. Research suggests that crisis management can create the momentum for change, if managers take advantage of the crisis to foster an adaptive learning process.<sup>6</sup>

During the transformation process organisations may need to update their mission, goals, strategies, and values. These provide an overall context for changes in organisational structure and systems, organisational culture and human resources, technologies, and output. Implementation of change can be difficult since in many cases the resistance of managers and/or employees has to be overcome. Typical causes of resistance include excessive focus on costs and burdens, failure to perceive benefits, and risk avoidance, among others.

Based on research studies it may be concluded that prospects for successful organisational change are enhanced if a well-considered, three-stage plan for collective decision making is established, which includes group processes for diagnosing the problem, propounding a solution, and designing implementation. Decision-making processes at the conclusion of each stage should be thoroughly evaluated<sup>7</sup>.

It is recommended that initiation of a significant change should be undertaken only after effective human relations (e.g., meeting high standards for internal cohesiveness) and goal attainment (e.g., meeting high standards for planning and productivity) already have been achieved. Chances for success are further improved if internal stakeholders at every level of the organisation learn the importance of open systems values (e.g., flexibility, adaptability) and practice their individual innovating and brokering skills. At the same time, senior managers need to pay attention to operational stability and control and exercise their important leadership roles. While they need to innovate, they also need to monitor and coordinate the changes<sup>8</sup>.

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(HSK), the United Kingdom Environment Agency, and the United States Nuclear Regulatory Commission (NRC)), and two policy makers (Swiss Federal Office of Energy (SFOE) and Natural Resources Canada (NRCan)).

5. NEA (2007) "Cultural and Structural Changes in Radioactive Waste Management Organisations - Lessons Learnt". NEA/RWM/FSC(2007)2, OECD, Paris. <http://www.nea.fr/html/rwm/docs/2007/rwm-fsc2007-2.pdf>
6. Rochet, C. (2007) "Making Crisis a Momentum for Change within Public" (this volume).
7. Rohrbaugh, J. (2007) "Creating and Sustaining Organizational Change: Implications of the Competing Values Approach" (this volume).
8. Rohrbaugh, J. (2007), *supra* note 7.

It should be emphasised that there is an important difference between sustaining change and organisational learning. Sustaining change means following a well-defined set of objectives, while organisational learning implies that objectives change over time. An effective way of learning can be achieved through the integration of stakeholder interests into organisational planning. Stakeholder integration may be interpreted as an interorganisational network, where trust and power symmetry are indispensable<sup>9</sup>. According to this interpretation, trust is not merely an objective of stakeholder involvement, but also a means of sustaining stakeholder integration, which helps organisations implement a learning culture.

## II. The case of RWM: Results of the FSC survey

- **Initiating change**

The FSC survey indicates that in most queried organisations change was, directly or indirectly, triggered by the difficulties and failures in facility siting processes due to the lack of local acceptance. Other important triggers were: new laws, mandates and duties; external stakeholders' expectations for increased transparency, openness, efficiency, and/or consistency.

In most cases changes were initiated by top managers and implemented by middle-level management teams. In a few organisations the necessity of change was first perceived by the staff and/or some middle managers, who convinced the senior management of this necessity. In all cases, senior management played a key role.

- **Changes in goals, values, policies, and structure**

In the vast majority of the queried RWM organisations significant changes took place over the past decade. Changes in mission and main goals were observed in a few organisations, and changes in values and culture in most of them. With few exceptions, a shift towards the open system model was detected in the observed organisations<sup>10</sup>.

In several organisations the mission or main objectives changed from purely technical (safety) goals to technical and societal (e.g., acceptance, confidence) ones. Others modified their mission and main objectives according to societal expectations. The issue of stakeholder confidence and the related values of openness and flexibility came to the fore in most of the queried organisations.

In some cases increased emphasis on transparency and the involvement of (external) stakeholders were accompanied by an increasing emphasis on commitment, cohesion and morale achieved through the involvement of staff (internal stakeholders) and consensus building. These organisations recognised a synergy between strengthening their internal and external communication.

Several respondents gave account of policies and procedures established for implementing new goals and values, for example, selection and reward systems designed to attract, develop, and maintain a suitable work force. Training and organisational development tools were applied to developing skills

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9. Blättel-Mink, B. (2007) "Experiences with Helping Organisations to Implement a Learning Culture and to Sustain Change" (this volume)

10. The following analysis focuses on organisations where a shift toward the open system model has taken place.

and attitudes. Other systems for shaping employee values, attitudes and behaviour included rules, guidelines, and code of ethics.

Changes in organisational structure took place in most RWM organisations, as a result of changes in their status, role, mandate and duties. Several respondents reported significant structural changes regarding the communication function. In other organisations new resources for stakeholder dialogue were established. Strengthening of intra-organisational (primarily horizontal) linkages to promote cooperation and consistency (e.g., creating teams, working groups, task forces) was also reported by some respondents.

- **Sustaining change**

In the majority of cases resistance had to be overcome before the implementation of change could begin. Resistance to change could be observed mostly on the part of the staff. This was related in part to the new professional requirements they had to meet in wake of the transformation. Considerable resistance to changes in attitude was also noticeable on the part of employees, who considered the RWM issue as a purely scientific/technical one and refused to acknowledge the socio-political aspects as equally legitimate and relevant.

The tools applied to overcome resistance included the sustained repetition of strategic objectives supportive of public outreach, internal communication, consultation, and training. Involving staff in developing organisational visions and values also appeared to be instrumental in overcoming resistance. It was emphasised that considerable resources are needed for coordinating and monitoring the changes.

- **Creating a learning culture**

Respondents called attention to the gradual nature of the changes in values, behaviour, structure and policy, which reflect a slow organisational learning process. In addition, attitudes and ways of thinking typically change at different rates in the different parts of the organisation.

A question may arise concerning the extent of stakeholder involvement in the transformation processes of the queried organisations. Based on the survey, two types of stakeholder involvement approaches may be distinguished. One group of the organisations focuses primarily on informing the public in the interest of increasing transparency of, and familiarity with, their activity. A second group, besides increased transparency, also aim at carrying on a dialogue with stakeholders, addressing their needs and concerns and taking them into consideration in decision making. By integrating stakeholders into all stages of organisational change, these organisations are implementing a learning culture.

### **III. Key lessons from the FSC survey**

Although the questionnaire is not statistically representative, because it just covers members of the FSC and some of their organisations, it outlines some of the things which have created a trigger for change in organisations:

- Difficulties and failures in policy decisions;
- Stakeholders' expectations;
- New laws, mandates and duties;

- New roles (e.g. increase stakeholder dialogue);
- New stages in the programme.

External pressures or crises are often an important motivation for organisational change and the agents of change are often top management. In some companies there has been a resistance to change and employees, especially technical people, have found it difficult to change and especially to engage with the public and to change from focussing solely on the technical aspects of radioactive waste management to deal also with the social aspects. Sometimes there has also been a lack of resources to really enable change to take place and an element of change fatigue within organisations.

There have been different methods used to overcome resistance to change. These have mainly focused on internal communications and involving people in defining the values that underpin the change. This engagement has been a real way of enabling people to participate and to own the changes.

Of the organisations who responded to the questionnaire half of them have changed their mission from focussing on technical issues to looking at technical and social issues, whereas half have only changed the values, culture and practices within their organisations.

In terms of changing values there have been:

- An increase in openness and flexibility;
- Emphasis on informing others and engaging in two way dialogue;
- Research on ethical issues;
- An increase in stakeholder involvement;
- An increase of the involvement of staff in decision making.

There has always got to be a balance between openness and security needs in radioactive waste management and there have been various approaches to achieving this. Some have gone for a completely open information process others follow regulations and in some cases experts have been consulted to advise.

In terms of organisational culture there have been the following changes:

- Becoming more adaptable;
- An increased emphasis on field work;
- More training and bringing in new staff;
- Developing guide lines.

In terms of communication there have often been:

- An increase in research about how to communicate with others;
- The strengthening of internal communications;
- Setting up work groups;
- Co-ordination between different departments.

Organisations have often taken time to evaluate their performance by setting up stakeholder questionnaires to determine how well stakeholders perceive they are working. In most cases these have shown a moderate or small improvement in public awareness and trust.

The culture of the individual country has a big influence on the organisational change that is taking place, as does the stage in the radioactive waste management programme.

### **III. Conclusions**

The survey indicates that recent changes taking place in RWM organisations are in many respects congruent with key findings of research on organisational change. For example, in most cases the triggers of change are crises and the dominant direction of change is the open systems model. Adaptation to the expectations of stakeholders is frequently accompanied by efforts to strengthen cohesion among employees. At the same time, coordination and monitoring by senior management appear to be key elements of the transition in most organisations.

However, notwithstanding similarities, remarkable deviations from the general patterns can also be observed. For example, in most RWM organisations the increased concern with security issues limits transparency and the adoption of the open system model. Another specificity is the multi-level multi-stakeholder nature of RWM decision processes, which requires leadership to deal with questions of considerable complexity.

There are significant variations among countries, as well. In some countries learning from and with stakeholders appears to be the goal of RWM organisations, while in other countries organisations tend to focus on one-way communication. No significant deviation from top-down approaches has been detected in a couple of countries, while in one country the queried RWM organisation reported on recent decrease in stakeholder interaction. These differences reflect not only idiosyncratic cultural and political traditions, but also variations regarding the stage of RWM programmes. In sum, in addition to general trends, various factors – e.g., cultural context, political and social environment, legal and policy changes, local aspects, etc. – also appear to influence changes in RWM organisations.

## **MAKING CRISIS A MOMENTUM FOR CHANGE WITHIN PUBLIC SERVICES**

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### **Abstract**

The public sector is traditionally presented as reluctant to change. Using an adaptive systems framework and following a grounded theorising approach, I analyse four cases of successful organisational transformation through the management of crises as a momentum for change. Crises help only if they are managed as such a momentum and endogenised by the managers. My conclusion is that organisational dynamics is roughly the same in the private and in the public sector and that appropriate crisis management may lead to a performing organisation. I stress the key success factors for a successful management of crisis as a momentum for change: learning is the key point and public managers appear to take advantage of the crisis to foster an adaptive learning process, but learning needs to be formalised before updating mental maps in public management.

### **Introduction**

When their environment changes, organisations need to update their mission and goals, conceive new strategies and transform their organisations especially in a context of technological breakthrough. This is a tough task within the market sector, which had to learn a lot during the last 20 years, confronted with a huge pressure from a new competitive environment and new production processes due to the new technological trend, but with the support of large academic sectors from sociology organisations, systems science and management. This is a tougher task in the public sector, which is said to be a laggard in updating its strategic framework and benefits from a poorer support by part of academic research in management.

The role of crises has been under survey for many years (Midler, 1995), but never precisely assessed in the global scenario of organisational transformation. The seminal researches by Patrick Lagadec (1991) on technological crises introduced crisis in the manager's frame of reference and pointed out their lack of preparation, crisis management having no room in their mental maps. More recently, Freeman and Louça (2000) and especially Carlota Perez (2003), through a new lecture of Kondratiev cycles, outlined that technological revolution is driven by disruptive innovation which introduces a paradigm shift in the management of the technological, economical and socio-political sub-system of a society. Crisis is a compulsory step of these paradigm shifts and crisis management will become a major art to steer the transition towards the information society.

Managing change in the public sector is critical for two reasons: first, in the new growth theory framework, public institutions play a major role in building the competitive advantage of nations. Second, if public institutions are not able to change themselves, they will not be able to manage the global change process for society. In this sense, change in institutions relies heavily on the ability to monitor change within public organisations.

Reviewing cases of successful organisational changes in the public sector, my conclusion is twofold: first, successful change is possible following rules basically similar to those applied in the private sector. Second, in each of these cases, the process began with a crisis, whether provoked or the fruit of hazard. Crisis appears to be the starting point, whether managers undergo the crisis or they profit from it to start the change process: that is what we will call the *crisis as a momentum for change*. The momentum may be considered as an endogenisation of the crisis to foster the evolutionary process through which change happens. Managing momentum appears to be a critical stage in the transformation of organisations towards organisational excellence.

This paper deals essentially with the role of crises in a global change in the dominant paradigm that governs the decision-making in public services' organisations. It proceeds to analyse four successful episodes where crisis has been such a momentum, allowing the organisation to change.

1. In point 1, I explain why crisis is part of the picture in the context of the new technological cycle and what is at stake with public services. My basic assumption is that if public institutions are not able to integrate the new paradigm at the organisational level – i.e. in their internal management – they will not be able to foster innovation in the institutional framework and to monitor the transition at the macro-level.
2. In point 2, I assess the problem of monitoring change within public services, why it may be more difficult than in businesses that interact directly with a market. Focussing on the case of the French public sector, which is said to be reluctant to change, will give us the opportunity to discuss the different public services patterns and roles, as national and path dependant systems, and what is at stake in modernising them.
3. In point 3, I review four case studies reflecting two main different patterns, the US (market driven) and the French (public driven) and point scenarios, leaders strategies and key success factors.
4. In point 4, I evaluate my findings and draw conclusions for crisis management in public sector organisations and how this would help trigger change in public institutions.

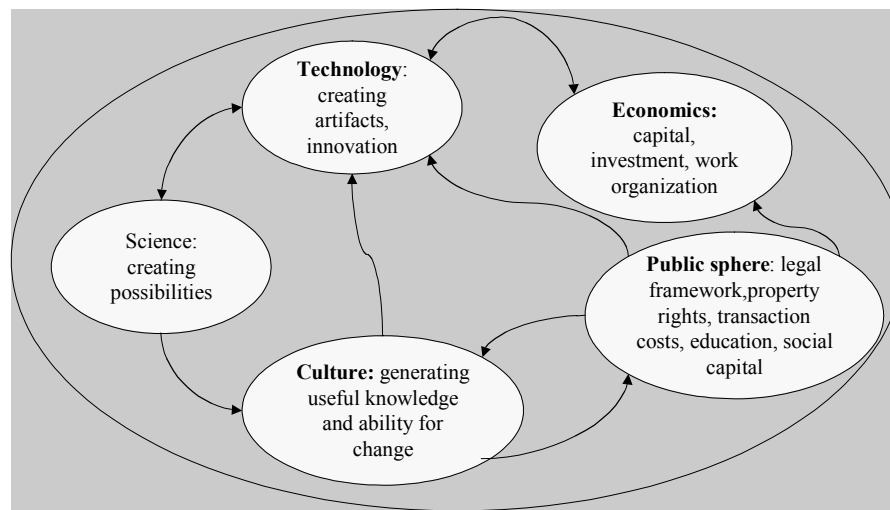
### **Crisis as a momentum: why, what and how?**

My assumption regarding the challenges faced by public services is twofold: first, crisis is part of the picture whether the cause is endogenous or exogenous. Crises are the result of a dual mismatch: at the macro level between institutions and the techno-economic environment due to the disequilibrium provoked by technological change, and at the micro-level between public institutions and organisations and the problems they face.

At the macro-level, growth is the result of the global performance of a society, thus the systemic effects of interactions between its economical, social, political and technological components. I agree with Erik Reinert, one of the leaders of Evolutionary, or Schumpeterian economics as an alternative to neoclassical economy, “the existence of such systemic effects is the fundamental reason why the State exists” (Reinert, 1999, p.286). The existing state is a consequence of an historical or evolutionary process of equilibrium and disequilibrium between the five subsystems of a society: science, technology, economy, politics and culture as shown in figure 1(Freeman, 2000).



## *Society as the product of five co-evolutive sub-systems*



A emergent meta system as a result of the historical path dependency each nation

© Claude Rochet

**Figure 1 : society as a metasystem**

Crisis is the consequence of the disequilibrium provoked by new technologies disruptive inputs in the technological subsystem. This disruption propagates first to the economic subsystem that has to integrate the new technological paradigm. The pioneering work by Carlota Perez (2003) describes the dynamics of such paradigm shift that propagates, since the first industrial revolution, through cycles made of “bubbles and golden ages”: Each cycle begins with a core technological input provoking disruptive innovations in leading industries and the rise of new industries. These new industries call for investments based on promises of new profit sources. Being largely irrational, these promises lead to the birth and the burst of a financial bubble leading to a crisis. Overcoming the crisis gives way to a long phase of expansion, the golden age, steered by the integration of the new technologies in the production process producing growth and the global increase in the standard of living.

Crisis is the fruit, as Schumpeter described it, of “that kind of change arising from within the system which so displaces its equilibrium point that the new one cannot be reached from the old one by infinitesimal steps” (Schumpeter, 1911). Being farther from this disruption, public administrations and their structures tend to integrate the new paradigm more slowly. While the public subsystem was leading change in the golden age period of the cycle, it is now a laggard and this lag becomes a cause for the persistence of the disequilibrium of the global system.

Getting out of the crisis is a dual wager for public administrations. On the one hand, the public sphere, as a subsystem, has a specific role to play, mainly as rule maker. North defines public institutions as “a set of rules, compliance procedures and moral and ethical behavioral norms designed to constrain the behavior of individuals in the interest of maximizing the wealth” (North, 1981, p. 201). So, the public sphere is not only in charge of building institutions that reduce transaction costs, but has a direct influence on the evolution of the other subsystems, cultural and scientific. Besides, for David Landes, the distinction between culture and institutions is very blurred, reflecting each other

(Landes, 2000). On the other hand, the public sector has a key role to play in favouring the congruence of the five subsystems toward the building of a stable complex system that would mean the end of the crisis through the full assimilation of the new paradigm and the entering in a new golden age. This is consistent with the recently developed metasystem transition theory that is the evolutionary process by which higher levels of complexity and control are generated (Heylighen, Joslin, Turchin, 1997). The new system will emerge from the interactions between the subsystems through a trial and error learning process. System theory provides us with another understanding of the alternation of periods of stability then obsolescence of the incumbent system, turbulence and transition towards a more complex system through the successful management of the crisis period.

The recent research by Michaël Bizou (2003) clearly demonstrates that the real meaning of the “invisible hand” is the intuition that society may converge toward a superior order of harmony. Bizou underlines that this system of thinking was present in Adam Smith’s thought: the role of the political power is to organise the congruence of subsystems toward a global harmony, and it is the greatness of the sovereign to improve, by its intentional action, the natural sub-optimal order of the society<sup>11</sup>.

To sum it up: the longer public institutions take to integrate the new paradigm, the longer and more costly the adjustment and the more probable society will lose ground in maintaining its competitive advantage.

### ***Crisis as a means for public services, considered as adaptive systems, to integrate the new paradigm***

This paper focusses on change in public organisations. Organisations and institutions co-evolve as North put it “Both what organisations come into existence and how they evolve are fundamentally influenced by the institutional framework. In turn, they influence how the institutional framework evolves” (North, 1990, p. 5). Thus organisations and their entrepreneurs are agents of institutional change: analysing how they get out of a crisis and build a new equilibrium may tell us a lot about how institutions may evolve.

Change is especially difficult in public services, as it is in organisations, for two main reasons: firstly, the management is split between technical and political personal. The technical management has no authority or responsibility for strategic change and the political management has limited technical management knowledge. Moreover, due to a rapid turnover in both technical and management personal, building organisational capability tends to be given a low priority and is at best typically under capitalised. The second reason is the lack of feedback from the market that would alert the organisation to mismatch between the services it provides and public expectations. “[L]istening to clients” remains the major drive for change (Midler, 1995). and “listening to citizens” is a much more complex task. These reasons are valid for all developed countries confronting the paradigm shift: the weaker the outcome of a public organisation, the weaker the interaction from its stakeholders and the impetus for change.

Organisations may come under “Parkinson’s law:” Maintaining their bureaucracy becomes their aims and their structure is justified by their mere existence. This is unlikely to change until the critical

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11. Smith is particularly clear on this point in his “Theory of moral sentiments”: “All constitutions of government, however, are valued only in proportion as they tend to promote the happiness of those who live under them. This is their sole use and end. From a certain spirit of system, however, from a certain love of art and contrivance, we sometimes seem to value the means more than the end, and to be eager to promote the happiness of our fellow-creatures, rather from a view to perfect and improve a certain beautiful and orderly system, than from any immediate sense or feeling of what they either suffer or enjoy.” (part IV)

point where the “value for money” ratio becomes unacceptable, either for budgetary collapse or for ostensible social inefficiency. In my case studies, the French Forest Office and The City of Charlotte belong to the first case, NYPD and French Library to the second.

Although crisis is not a compulsory step towards organisational innovation (Recascino Wise, 1999), it may create a momentum both for the coalescence of technical and managerial competencies within civil servants and politics and for the social demand being heard by managers and employees, making the move towards organisational reform affordable.

The cause of the crisis may be exogenous or endogenous. Even though endogenous are more foreseeable than exogenous ones, crises are always an exogenous event that challenges the internal equilibrium of the organisation. This event may be either a financial deadlock or a disjunction with social expectations. At the nation-state level, contemporaneous crises originate in public finances deadlocks (New Zealand, Australia, Canada, UK, France...). But the very source of these crises relies on the decreasing returns of institutions and in the increasing costs of their underlying organisations.

### ***Disequilibrium, crisis and change: the resilience framework***

Analysing rhythms of equilibrium may be carried out using the concept of resilience that is “The ability of human communities to withstand external shocks or perturbations to their infrastructure, such as environmental variability or social, economic, or political upheaval, and to recover from such perturbations.” (Adger, 2000). Another way of defining resilience is the amount of disruption needed to transform a system from one stable state to another system that will be more complex and stable with a better ability to deal with the issues of its environment. A social system may be described as adaptive (Holling and Gunderson, 2002), going through a four phases cycle: a period of rapid growth and exploitation, leading into a long phase of accumulation ( $K$ ) with a resulting growing focus on the conservation of the organisation and a closing to external influence during which resilience tend to decline, then a rapid breakdown or release phase ( $\Omega$ ), finally closing with a short phase ( $\alpha$ ) of renewal and reorganisation. In this phase, the system is resilient and is able to reorganise and to introduce novelty, new institutions, ideas and strategies (figure 2).

- In the  $r$  to  $K$  phase, the *production* phase, the system capitalises resources, institutionalises and improves its internal connectedness. By the time, the system loses contact with the exterior and runs for itself. Moving towards  $K$ , it tends to lose its resilience becoming resistant to change.
- In the  $\Omega$  to  $\alpha$  phase, the *innovation* phase, the system becomes rapidly turbulent and novelty can enter but loses resources and needs to build new resilient configuration ( $\alpha$ ) to initiate a new  $r$  to  $K$  phase that will lead to a more stable system.  $\Omega$  is classically the crisis episode with a loss of potential (budget cut and downsizing) and of connectedness (social crisis) as shown in figure 2.

Through cycles of adaptive stages, the system accumulates knowledge, memory and improves its organisational capability and its ability to build solutions that are more resilient. If the system is not able to rebuild resilience in the  $r$  phase, it will degenerate.

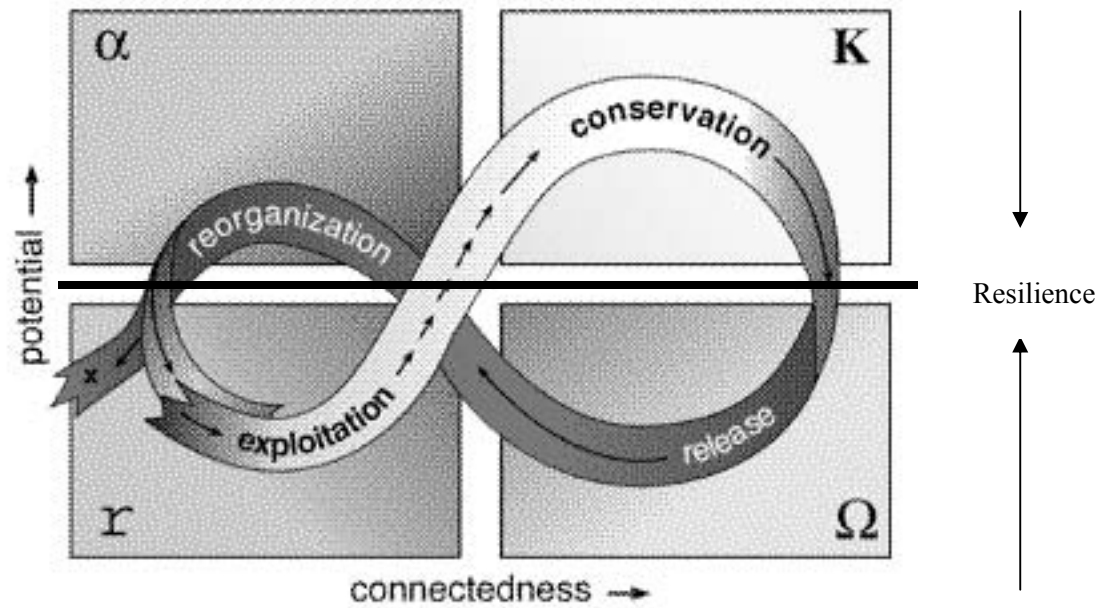


Figure 2: the cycle of the adaptive system (©Holling and Gunderson, 2002)

This approach is consistent with the new paradigm where the role of institutions is to steer the global learning process within the society, abandoning the command and control management relying on a pure top-down process that gives full power to technocrats. Building stable complex systems requires interactions between the strategic impetus coming from the centre and initiatives coming from the periphery. In an open world, development requires a mix between top-down and bottom-up (“Think global, Act local”). As Holling and Gunderson conclude “what we do need is careful empirical research that will help us better understand how multilevel and polycentric governance work, how they adapt overtime (...) and how we can build even more resilient, learning complex systems in the future”.

Making crises a *momentum* for change implies understanding at what stage the organisation is and building an appropriate strategy to steer the transition process towards a superior state of equilibrium.

Based upon four episodes of successful organisational change with crisis happening at various stages, WE will try to assess successful strategies.

### **Change is systemic and embedded in historico-cultural tradition**

I chose to study these adaptive cycles in two different contexts: that of the US, which typically illustrates a market driven national innovation system (NIS), and that of France, which represents on the contrary the archetype of the public based NIS. WE analyse NIS in a broader sense than the classical interaction between science, technology and economy. The inclusion of institutional diversity allows comprehending the differences between national competitive advantages (Amable, 2002) making the dynamics of public institutions part of it.

Today, the French public system appears to be a laggard in reforming itself and reluctant to change. According to the mainstream explanations of neoclassical theory, it would suffice to consider public services mainly as “service providers” – *i.e.* to reduce their roles to those of a supermarket (Christensen & Laegreid, 2002)- to reform them. New Public Management (NPM) and “reinventing

government” such as promoted by David Osborne and Ted Gaebler (1992) provide a set of recipes based on neoclassical principles. Emphasis is put on economics norms and values and NPM plays down the importance of public sector ethics and institutional – cultural constraints. Moreover, NPM intends to institutionalise a new culture and machinery of administration through international organisations such as OECD, WB, IMF as well as international consulting corporations.

### ***The failure of mainstream economics and New Public Management theory in monitoring change***

Practically, public services reforms based on these principles did not deliver the results they promised. NPM intent, such as advocated by OECD (1995, 1996), was to promote a global paradigm change concerning the control and organisation of public services through the implementation of market mechanisms, making it converge toward the same universal model. It is today questioned on several points: first, the model did not convincingly promote a between nations, as the compared cases of two NPM countries – New Zealand (NZ) and Norway - demonstrated it (Christensen & Laegreid, 2002).

Second, the efficiency of NPM has been questioned in the emblematic case of NZ: focussing mainly on outputs, it succeeded in “doing the things right” but failed in “doing the right things.” The reason is there is no room in a neoclassical framework for outcomes for the state does not deal with citizens and stakeholders information asymmetries and just tends to be a “supermarket” delivering service to its clients. In such a perfect information model, outcomes evaluation is not necessary. As Allen Schick put it “The neglect of evaluation in the New Zealand model was not accidental; it derived from the notion that government can purchase all the information it needs in the marketplace of ideas” (2001). Today, NZ is reengineering its public monitoring system focusing on outcomes.

Third, NPM failed in reaching its initial goals. In her study on allocation patterns among three NPM majors in the US (Indianapolis, Los Angeles, New-York), Lynne Weikart concludes that all three majors real strategies has been unintended: Small, rather than large decreases in taxes, spending of savings in public works rather than tax reductions, and an increase in the debt and reallocation of resources towards strategic goals such as public safety (Weikart, 2003). The main reason is that the neoclassical theory ignores the systemic effects of the action of the state on economic growth. I agree with Reinert in his exploration of the role of the State since the Renaissance: its existence is a condition to reap the benefits of synergies between human activities (Reinert, 1999). This means that markets and capital are only building blocks (on which mainstream economics theory focuses) that have to be emulated by other components, techniques and knowledge. Growth and Welfare are the product of systemic effects between these building blocks, positive feed-backs and increasing returns: “the existence of such systemic effects is the fundamental reason why the state has a role to play in economic growth” (Reinert, 1999). In the neoclassical pattern, there are no increasing returns, so institutions do not matter. On the contrary “with increasing returns, institutions matter and shape the long paths of economies” (North, 1990, p. 95)

### ***Understanding the role of institutions***

This is the reason why, for a thorough understanding of public services adaptive cycles, we need to integrate their “long path” or historical trajectory and their resulting path dependency. These different patterns have historical roots that may be understood by analysing the differences in take-off trajectories of France and England. As Alain Peyrefitte (1995) clearly illustrated it, in the 17<sup>th</sup> century “*L’Angleterre se bat pour commercer, la France commerce pour se battre*” (England fights to trade, France trades to fight). On the eve of the first industrial revolution, while England is a nation-state, France is not. Englishmen are citizens who have been enjoying growing freedom since the 1215 *Magna Carta*. After the 1688 “glorious revolution” Christopher Hill describes England as a modern

nation “we are already in the modern world – the world of banks, cheques, budgets, the stock-exchange, the periodical press, coffee-houses, clubs (...) It is a world in which government put first the promotion of production, for policy is no longer determined by aristocrats” (Hill, 1961). France has been ruined by the Hundred Years war, which resulted from two opposite conceptions of the state and led to the alliance between the *Bourguignons* and the King of England with the invasion of France as a consequence. The national feeling appears only in the 15<sup>th</sup> century with the reunification of the kingdom and the expulsion of English armies. Many other reasons may be brought up, such as the diverging influence on economic dynamism of Protestantism and Catholicism, the Peyrefitte core thesis.

To catch-up with this lag, a strong State will emerge. Reinert mentions the role of Colbert “as an entrepreneurial input-coordinator for France Inc., in a venture to get into knowledge based activities (...) to deal with “reverse salients” retarding the system and demanding managerial attention”. In the French pattern, polity frames economy and science is a common good, in the Baconian sense, while in the English pattern, polity and science are to support individual initiative and responsibility. But, as Liliane Hilaire-Perez (2002) demonstrates it, both systems cross fertilised, balancing market incentives and license by the state to support innovators: As a critic of the individualistic bias of the patent system the creation of the Society of Arts in 1753 relies on philanthropic objectives making inventions a common good, while the French scientific academism is challenged by the desires of inventors to access the market through the support of investors.

The French (*i.e.*, the public NIS) worked especially well in the catching up and golden age periods, taking audacious initiatives as the decision by the royal administration to spy, in the 18<sup>th</sup> century, on British innovations in the steel industry (Landes, 2000). By 1900, England began to lose her leadership: her productivity was overshot by that of Germany and France in proportion to the bad social consensus between workers and employers and the weakening interest for innovation (Crouzet 2000, p. 229). So, the point is not, as it is commonly said, to decide which institutional arrangement is the more competitive. Each system is path dependant and France needed to build performing institutions through the edification of a powerful state: if, at the end of the 19<sup>th</sup> century, as Crouzet put it, France was a mighty industrial power, she was not an industrial nation. Her national income relied mainly on agriculture and this situation will need the blooming of the *trente glorieuses* to be fully offset. This has consequences on the prevalent culture and on the role of institutions: if France is traditionally a country of innovators, it is by fascination for science in the Baconian sense and not for an industrial purpose. The French bourgeois is a rent-seeker, a *rentier*, who, as an investor “preferred fixed-interest securities (...) to more speculative industrial shares.” (Landes, 2003). This situation was inherited from the 16<sup>th</sup> century when the monarchy, constantly running out of cash, sold *offices* (an appointment providing a rent for life against an immediate payment) to the bourgeois. Landes tells us that the founder of the *Crédit Lyonnais*, Jean Germain, declared in 1860 that there were no industrialists in France worthy of support (Landes, 2003). Whether industry funding relied on homespun capital or not, the *rentier* was not interested in investment. Consequently, the State had to mitigate this deficiency of the ruling class and become an investor, and, after 1945, a manager, through strong state-owned industrial companies.

This has produced a very particular pattern where public institutions are self justified, representing the common good, or in Rousseau political philosophy “*la volonté générale*.” This system worked when ruled by a visionary leader as de Gaulle. But it is clear that since the 1974 turning point, it became less efficient in the blooming of the information technologies potential. Aghion and Cohen (2004) say it bluntly: the French NIS and in particular its educational system (which is presently the fourth bureaucratic organisation in the world - measured in terms of personnel – behind the Chinese People’s Liberation Army, the National Health Service and the Indian Railways - is “catching up minded” and not adequate for forging ahead on the new technological frontier. A

temptation would be to recognise, as the mainstream economics proposes it, the superiority of the market NIS and to adopt new institutional arrangements. This is not relevant according to Amable and Petit who do not find long-term correlation between a particular kind of NIS and global performance. Historical studies lead to the same conclusion, as Landes put it, each industrialising society developed its own combination of elements to fit its traditions, possibilities and circumstances. The French NIS proved its ability to innovate at the institutional level, but its present bureaucracy with decreasing outcomes and increasing costs may constitute a bottleneck.

So, our questions become “How can historically self-legitimised public service organisations recognise the new paradigm challenge and change to meet it?” and “will crises be, in this case, of special interest?”

### **Managing crisis for change: four case studies**

I review four episodes, two in the US, two in France. The US case studies are based on existing, secondary sources: [Charlotte City managers published a thorough *saga* of their ten years journey in managing change since the 1992 crisis. NYPD story benefits from the study by Silverman (1999)]. The two French case studies are based on material from a 2002 governmental survey on public agencies (Rochet 2002).

The common trait found in each of these cases is a paradigm mismatch between the internal equilibrium of the organisation and the growing complexity of its environment and mission. Before the crisis, these institutions had different levels of resilience, depending on their history and their accumulated organisational capabilities that are challenged by a shock, following different scenarios.

#### ***The provoked crisis as a momentum: Revolution in blue at the NYPD***

New York Police Department (NYPD) was, in 1994, facing a double challenge: reducing crime within the city as promised by the new elected mayor, Rudolf Giuliani, and reforming itself to fight internal corruption. NYPD was at the K phase, over institutionalised, with periodic scandals regarding corruption. As a system, NYPD was homeostatic; all intent of change was neutralised. According to Silverman (1999), “NYPD is like an ocean liner - its course is extremely difficult to change. A reluctant crew savors management obstacles, pleased with the inefficiencies of an enormous bureaucracy.” Prior to 1994, the former commissioner, Patrick Murphy, who was in charge for eighteen years, made huge efforts to fight corruption and gain good records. Murphy dedicated himself to the management of the NYPD and proved that change deserves constant efforts. But, while he paved the way for the post 1994 transformation, he did not succeed in completely transforming NYPD organisation.

Murphy’s managerial approach was classical: he benefited from a strong political support and sympathy among top-level personnel but “the department skilfully engulfed some of Murphy’s change without disturbing many existing practices” (Silverman, 1999). Murphy’s top-down approach did not involve many street-level cops who considered themselves orphans of the organisational process. Murphy relied on a small faction of innovators but had to face other traditionalists; so he never succeeded in sweeping out corruption entirely from the department. The third reason of Murphy’s limited results is due to the ideological context: he subscribed to the prevailing ideas that crime was the product of social and economic factors that outweighed police efforts. So, Murphy focused on the sole problem of internal corruption without mobilising the department on crime reduction.

Overall, we can say that the amount of disruptive change injected to transform the NYPD was not sufficient. In spite of crises due to corruption scandals ( $\Omega$  stage), the change process had too weak  $\alpha$  and  $r$  stages and rebuilt itself at the same level of resilience.

When arriving to charge, some days after Giuliani's election as a mayor, William Bratton implemented a new strategy: First, crime reduction became the main strategic issue and he gave up with the sociological explications of crime so as to build a direct link between NYPD efficiency and crime reduction. Secondly, change was orchestrated through reengineering based on the street-level cop so as to outweigh the resilience of bureaucracy and its numerous hierarchical layers.

To start with this strategy, the momentum was an incident at the Harlem Mosque where Muslim activists were sequestering two police officers. Years before, a similar incident had resulted with giving up any suits to avoid further incidents with activists. For Bratton, this incident was a gift to broadcast its message "law and order will be enforced." Towards the public, ambitious objectives of crime reduction are announced to dramatically reduce crime, fear and disorder. These objectives cannot be reached through the traditional bureaucratic management of NYPD and imply a profound reengineering of its organisation. Top management has to present a crime reduction strategy and after one month many of them and about one third of the precinct commanders are removed. The bureaucratic organisation of the NYPD is challenged with the empowerment of street-level cops who become the drivers of the new strategy that will be called the "revolution in blue."

Every step towards decentralising initiative must be balanced by centralising the monitoring: this will be done with the *CompStat* (Compare Statistics) system which will allow the strategy to be sharpened by an objective measurement system involving each precinct commander in collective problem solving activities, the same system making the NYPD accountable towards the public of its achievements in crime reduction.

The results are widely known: crime rates fell dramatically in New York City; so did corruption within NYPD.

Bratton's strategy may be summed up in putting NYPD in disequilibrium to break its resilience ( $\Omega$  stage) that had neutralised all the previous reform initiatives and then to rebuild a new system, more complex and focused on crime reduction results. The reengineering process initiated a profound reorganisation phase ( $\alpha$ ) while the implementation of collective problem solving activities through *CompStat* meetings improved connectedness within NYPD organisation, leading to a new state of resilience and equilibrium  $K$ .

Key success factors appear to be the sharing of a common vision and will between the newly elected mayor and the new police commissioner on its reducing crime program. A clear understanding of the organisational nature of the NYPD and its reluctance to change allowed the creation of the momentum of the crisis and made it the starting point of the reform, giving impetus to a wide learning collective process benefiting from an extended use of information technology.

### ***Making an event a momentum: Learning by consensus building at Charlotte***

The City of Charlotte (North Carolina, USA) experiment is known for being the first opportunity for professors Norton and Kaplan to apply their balanced scorecard approach to a public service. The story began in 1992 with a financial crisis that would lead the city to the brink of bankruptcy. Obeying a NPM approach to such crises would have led to downsizing decisions and personal reductions, followed by reduced performance and declining morale. The  $\Omega$  to  $\alpha$  phase wouldn't produce a



reorganisation of the system but another, poorer, system. Instead, the city council decided to implement a *rightsizing* approach (City of Charlotte, 2000).

This decision will turn what would have stayed an episode in the history of an administrative structure in a strategic crisis that will become a momentum for change. What was at stake? Charlotte faced a rapid growth as a city with consecutive growth in its administrative structure and expenses were growing faster than revenues. Charlotte's growth relied on corporations and was known as a "corporate town." The City didn't want to lose its AAA credit rating and wanted to save its reputation towards the corporate community by not raising property taxes as the sole solution to overcome the crisis.

While freezing expenses creates the momentum for change, rightsizing indicates the path. The "Blueprint for Rightsizing" was presented to the City Council in March 1992 as the administration's assessment of the changing environment in which the City government was operating, and its outlook on the future. "The current hierarchal structure," according to the report, was "characterised by layers of supervisors, centralised controls, and policies that supposedly covered all situations and were developed over time in response to legitimate needs and circumstances. But those circumstances have changed significantly."

While short-term deficit were addressed through incentives to voluntary retirement and a freeze on hiring, long-term costs were identified as being those of a bureaucratic structure with many supervisory layers. The blueprint brought about a setback of one year for the city organisation to strive to become a customer focused organisation with a decentralised management, an agile, results oriented structure and putting emphasis on leadership as opposed to supervision and control: Rightsizing was defined "about reallocating resources and is based on transferring positions and resources from lower priority to higher priority areas." (City of Charlotte, 2000, p. 17)

Debating within focus groups helped define a new vision and strategic priorities allowing tough decisions to be made such as restructuring the organisation top to bottom, or shifting people and resources where they were most needed. The results of rightsizing were significant "The most dramatic result was the elimination of more than 250 positions City-wide —or approximately 8% of the workforce — which occurred between 1991 and 1993. This workforce reduction was achieved through a retirement incentive program, citywide reorganization, departmental reorganizations, use of technology, re-defined internal priorities, and a hiring freeze for vacancies". Other results of rightsizing include "the implementation of 197 employee initiatives that directly resulted in saving \$2.8 million in the City's budget (...). Those savings, coupled with other employee initiatives, have provided the City with \$9.1 million in annualized savings." (City of Charlotte, 2000, p. 16)

This approach helped create connectedness within employees and saved capital and potential for the building of a new organisation. The no-lay-off policy was the price to pay to foster an  $\Omega$  to  $\alpha$  phase that would bring the system to a new stage of equilibrium with new management principles. Downsizing with "across the board" lay-offs would have killed the internal systemic dynamic to give rise to new organisational patterns.

To build a resilient system - the  $r$  to  $K$  phase - the City decided in 1994 to implement the balanced scorecard as a measurement system and steering tool to monitor the new result oriented organisation. The BSC implementation supported a tough process of organisational transformation based on citizen orientedness to define the main strategic benefits, strategic alignment as a principle of process reengineering, "keep or privatize" to assess the costs against the market, and the integration of the performances of the organisation as a means to define wages and incentives. This is a long

process: for the first time in 2000 the city budget has been voted in relation to the priorities of the main strategic issues.

Presenting these results, the city manager writes (City of Charlotte, 2000) “many of these developments might seem like they were part of a systematic strategy. But when I embarked on this course a decade ago, it was by no means fully charted. The strategy evolved, guided by core principles”. The key success factor was not, by comparison with the Bratton approach in NYPD, a clear vision of what has to be done, but the consensus building that started with the double decision of making the budgetary crisis the momentum for change and the no lay-off policy. This allowed monitoring an organisational learning process. BSC method came later, as a tool to build a resilient organisation being able to reengineer itself permanently.

***Profiting by an unforeseeable crisis: the 1999 tempest and the ONF***

The *Office National des Forêts* (ONF) is the French governmental agency in charge of the management of the public forests. For a long time, its business model is unbalanced: State forest – which exploitation is a ONF monopole - represents 40% of its business portfolio towards 35% for those of local communities, a semi monopolistic activity, since communities may deal with another provider. Other activities are purely commercial (15%) or purely public interest missions (10%). The first produces a surplus, which finances the deficit of the latter. Such a situation is abnormal, for it is not the ONF mission to subsidise local communities’ forest management. These losses are caused by too many local branches and the absence of commercial discussion with those communities, which lobby at the political level for the situation remaining unchanged. In 1998, ONF must face a new dual strategy: on the one hand, complying with Helsinki sustainable forest’s management objectives, that is, improving Europe’s sustainable forest management as ecosystems, and on the other hand, gaining productivity as a consequence of the market opening to competition. This implies developing a commercial culture among employees. Since 1998, it has been decided to gain productivity in this local communities sector to rebalance the business model. The targeted business model is fourfold: gaining productivity in the state forest sector as a consequence of the opening of markets; gaining productivity in the local public communities sector to avoid the subsidising perverse effect from the former to the latter; developing purely commercial offerings at competitive prices and providing general interest missions at their real cost through commercially equilibrated contracts with the state.

This implies developing a commercial culture among employees. In 1998, a strategic plan was adopted: becoming a major player in the environmental fields, meaning enhancing a commercial culture to the service of sustainable forest management objectives.

The parent body office has traditionally a poor ability to proceed in such reengineering in a highly unionised environment.

At the end of December 1999, two storms destroyed large parts of the French forests in what has become a national catastrophe: 45 millions tons of wood were destroyed and 130,000 hectares are to be reconstructed, that represent 3 years of the medium annual yield, 10 in the eastern part of France. Immediately, in January 2001, negotiations began with buyers but with a threat of a price crash due to the disequilibrium between supply and demand. No sales will occur until March. The governmental intervention will allow the market to be regulated and, in the end, wood will be sold at a higher price than forecasted, but losses are important regarding with budget forecasts.

But the trauma has been consequential: it provokes an intense mobilisation among the Office employees. Hard working rhythms during 2000 led to a greater awareness of the situation. While the office earned a new legitimacy among its partners - especially local communities which were reluctant

towards the reengineering of the business model – that meant paying for ONF services at their real cost because the implicit subsidy to local communities was the real source of ONF's deficit. The Office management will make the beginning of the reengineering process an opportunity to foster what Midler calls “emphasizing objectives and tangible elements to overcome actor's subjectivity” (Midler, 1995).

Through the orchestration of the crisis, negotiations with the State parent body began during the summer of 2001, allowing the passage from management crisis to the reengineering of the business model. A five years contract plans the return to a balanced budget: until 2006 the State will finance the deficit originated by its own domain exploitation, while the agency is committed to 30% productivity gains, freeze on hiring and the reduction of the hierarchical structure through the reduction of the number of local branches. According to this new organisation, a new flow-chart is being published with a call for application to the new functions. This will be a vote in favour of the plan since 70% of employees will apply in spite of the unions' opposition.

The conjugation of the crisis management and the reengineering of the business model had allowed a negotiation with the local communities and to understand what the ONF business model has to be, based on the synergy between activities, managed as a portfolio: Public forests management are monopolistic or semi monopolistic activities that must support competition in terms of costs and deal with public sustainable development issues, while other activities are fully competitive. Costs and tariffs logics are different according to each activity, but the key point is knowing costs, that is emphatically coined as “moving toward a commercial culture”. On such a clarified basis, negotiations with local communities and other partners have been completed on a mutual benefit basis for each part.

Important investments in the information system allow to see the real costs and to link performance evaluation to operational results.

The key success factor is in this case the previous clear vision within the management of what has to be the new business model, which is classically an *r to K* phase job. But without managing the crisis as a momentum for change, it wouldn't have benefited from an *Ω to α* phase which created the condition of a new vision of the agency role and tangible elements it was based on.

### ***Strike as a welcome momentum: putting the French National Library back on track***

The project of a new *Bibliothèque Nationale de France* (BNF), dedicated to replace the old one built by Richelieu, was one of the several prestige projects launched by president Mitterrand to commemorate his reign and to bequeath his mark to posterity. The project was costly: 7.2 billion FF (\$1,5 billion US) to allow the construction of what would be the most prestigious building. It was driven by what its first CEO has defined as “technical arrogance” that was the direct consequence of its political arrogance (Stasse, 2002).

The consequence will result in a design of the working place that will not integrate the precise contingencies of librarians' business. Designers will dedicate all their efforts to what was visible to the public, not on the employees' working conditions.

Moreover, they will not comprehend the change that will result in the working process by moving from a 1200 employee library in a 17<sup>th</sup> century building and working on a craftsman basis to a fully computerised 2800 employee building.

Especially, the information system will be the benchmark of this technical arrogance: computer scientists conceived the system without any discussion with librarians. In fact the information system was conceived as a war machine against the employees who looked archaic to the engineers. The system was over sophisticated and, as engineers said, was ready to work at 98% but with the 2% missing it was not possible to make this arrogant project work.

In 1998, sometime after the grand opening, employees went on a general strike for several months, asking for better working conditions. They gained support from the readers and, in fact, from the management who was conscious that the project did not work.

The management decision has taken advantage of this strike to put the project back on track through the elaboration of a strategic plan. Focus groups gathered in every department, including readers and representatives of the librarians' profession. This participative process will help to break the arrogant image of the BNF while issuing proposals that will help pointing out key strategic objectives. Five key focus areas are released linked to results and management indicators. As WE have shown (Rochet, 2003), this approach meets the requirement of the balanced scorecard in spite of the fact managers had never heard about this methodology. Emphasis is put on customers' satisfaction whether physically or through the website (<http://www.bnf.fr>), associated with process improvement regarding collections and their availability to the public, the implementation of accrual accounting to allow the linking between strategic needs and resources allocations decisions, and with better working conditions.

As a result, the board, which was a battlefield between employees, readers and managers moved to a strategic monitoring function that is negotiating a contract with the State parent body that is today a benchmark within the field of agency's management.

The crisis originated in classical technical project mismanagement due to the prevalence of political and technical arrogance. It could have resulted in a complete failure or new investments to reengineer the project. In fact, this project had no resilience at all since it never worked. The strike was motivated by the desire of the librarians not to do their noble job in such hellish conditions. It is the shared decision of making the strike a momentum for change that gave the project its present today resilience through the strategic process that creates mobilisation of the agency's potential and connectedness among the employees and management. As a result, the Library is alive, but practically the business model has been reconceived bottom-up, starting from readers' needs and appropriate working functions for librarians. It is very unlike the initial politically arrogant project.

## Findings and conclusions

We may sum up the four cases as follows:

		$\Omega$	$\alpha$	r	K (initial and resulting state)
US	NYPD	Politically provoked crisis	Reengineering	Improving collective intelligence through CompStat	- Corrupted, inefficient and locked-in system -A learning organization based on the « street cop level »
	Charlotte	Making a conjuncture financial crisis a <i>momentum</i>	Empowerment	Innovation in the monitoring Organizational improvement through the adaptation of BSC	From bureaucratic to smart growth

FR	ONF	Making a natural catastrophe an opportunity	Improving a commercial culture	New activity model and hierarchical structure	-Financial disequilibrium due to the activity model obsolescence - New activity model and 5Y transition agreement with the State
	BNF	An information system crisis becomes an institutional crisis	A strategic planning process involving all the stakeholders	BSC <i>de facto</i>	- An activity model based on prestige - A coherent activity model based on value creation

So far, three statements may be drawn:

1. Crises must be managed and what is important in the cases presented is the decision to make the crisis a momentum for change. In the case of NYPD, it was proved that successive corruption crises were unable to provoke a reengineering of the system due to its high level of resilience, while in a system with no resilience, as BNF, the crisis would have led to the bankruptcy of the project or to unhealthy compromised decisions. In these processes, it is the leadership of managers who understood what was at stake and what had to change that allow the crisis to be endogenised and to tackle the organisational innovation process.
2. In all case studies one successful key factor is the existence of a previous strategic framework among managers. Bratton and Giuliani had a clear view of what performance had to be for the NYPD. Charlotte city council had a vision of the future of the city and the role of its administration. At ONF, the new business model was in the managers' minds, and instead of their new and mismanaged equipment, the BNF librarians knew their job and what service quality to customer had to be and how new technology would improve it. Leadership does not suffice: managers must have their mental map updated or be able to update it, along the evolutionary process.
3. While the "*what*" question is essential, the question "*how*" is not: NYPD is the only case where the manager was ready to use methodology as a fan for the reengineering fashion of the beginning of the nineties. In Charlotte managers found their methodology through learning by doing and adapting off-the-shelf methodology such as balanced scorecard. In BNF, the process was purely inductive. This is consistent with the evolutionary nature of organisations as living systems: the process is not deterministic and once they have a stable goal, it finds, thanks to the managers' initiatives, its own path to reach an equilibrium state through a trial and error process.

These points may be common to all organisations, and it may be reassuring that public organisations and not "Genetically Modified Organisations" that would not obey the principle of organisation dynamics. In none of the cases was it needed to resort to privatisation or other neoclassical coined solutions: killing the patient did not appear to be the unique solution to cure the disease.

So, what would be specific to public organisations? Recall the discussion in section 1 on the reason why crisis is part of the picture in public organisations: they are lagging behind in updating their cultural framework – North would speak of "informal constraints" – to the new opportunities of the raising paradigm. Concluding that public organisations are able to update mental maps is important, since they are the underlying learning processes of institutional evolution. They are the players while institutions are the rule makers. Actors' cultural evolution creates informal constraints, while institutions create formal constraints. North emphasises on the consequences of a mismatch between

informal and formal constraints “When there is a radical change in the formal rules that makes them inconsistent with the existing informal constraints, there is an unresolved tension between them that will lead to long-run political instability” (North, 119, p. 140). It would not suffice to create appropriate formal rules if informal rules do not evolve. Analysing the origins of English success in the first industrial revolution, North insists on the role of such informal constraints that were hospitable to change in formal rules. In the present technological revolution, decision of implementing IT in public organisations would limit in putting “lipstick on a bull dog” if informal constraints and culture did not evolve to allow business model to transform. In other words, crisis, if properly managed as a learning organisational process, is an opportunity to enhance organisational paradigms.

At this point, we can draw two conclusions for public management. (1) The first is optimistic: public organisations are able to change and crisis is an opportunity if endogenised by managers. If a public policy maker wants to build top-down new formal rules that mismatch with informal rules, properly managed crises may offer an opportunity to build bottom-up new informal rules and to enhance the fitness of the global institutional arrangement.

(2) The second is pessimistic: What happens if managers, through managing change in public organisations, create performing informal rules but with a poor feed-back on politicians’ culture? We cannot reach, at this point, conclusions about how successful crisis management at the organisational level may help to trigger innovation at the institutional level.

### ***Crises and change management***

**When endogenised, crises may lead organisational learning:** The concept of resilience is relevant to understand, within the pattern of system dynamics, why an organisation can come into crisis and how crises may be overcome through a learning process that leads the system to a superior state of equilibrium. Sustainable organisations are those that are able to achieve such four phase cycles. However, system dynamics is driven by non-linearity and unpredictability, so crises, while they offer opportunities to reach a new stable state through the weakening of the resilience of the former, are of poor use *per se*: Management theory often misused the chaos theory, leading to the false assumption that putting a system in disequilibrium suffices to allow it to find its new equilibrium. Chaos theory is a deterministic process that supposes stable initial conditions, and if it may apply within a stable structure (for instance to steer an internal innovation process), such conditions do not exist in an open world where each sub-system is semi-autonomous and co-evolves with others. Thenceforth, not all cycles are the same, some are maladaptive, there are several possible future equilibrium states and the costs of sliding into an undesirable state are severe (Holling CS, Gunderson L. and alii, 2000).

The quest for global fitness requires the modelling of the subsystem environment: a disruption in the technological sub-system needs to model a new pattern of the economic one and the research of a new institutional pattern to reach its full deployment. NYPD “revolution in blue” was successful thanks to the co evolution of ideas and politics that produced increasing returns.

- Crisis is helpful to impel such an organisational innovation process. Crisis is an exogenous event, regardless of its cause, but innovation is endogenous through a disruption within the system. Our case studies are consistent with the Schumpeterian role of the entrepreneur in innovation, as Freeman and Louça summarise it “innovation is endogenous to the system, but it is finally determined by the entrepreneurial function, that unique capacity to make new combinations, which is clearly outside the domain of the model” (Freeman, 2000: p. 59).

- Clearly, change happens when the entrepreneur endogenises the crisis. This entrepreneur may be a charismatic leader such as Bratton in the NYPD case. In the other cases, the management teams assumed entrepreneurship. This entrepreneurship consisted in making the organisational system think about its role, how it creates value for the common good and in building new consensus on values and new management techniques. The entrepreneurship is supported by a low turnover, both amid politicians and managers. In Charlotte, the average mandate for elected people was over 7 years. Bratton and Giuliani formed a united couple before the Giuliani election and during its period as a Mayor. We can find such examples in the French administration where the average period in charge for a high civil servant is about 3 years. The reformer of the Ministry of Transportation stayed 7.5 years in charge (1981 – 1988), and the builder of sanitary agencies network 11.5 years (1986-1997).
- The key success factor for change from one state of resilience to another is learning. Not only double-loop learning that questions the underlying model (Argyris and Schon, 1978) but deep and dramatic learning involving collective problem solving among a set of tangled and complex variables and creation of new knowledge.
- In all the cases, the introduction of information technologies was a key to foster such a process. In NYPD, CompStat became a tool to build collective knowledge and to empower the street level cop. In Charlotte, IT leveraged the development of new skills. In ONF, IT, through the knowing of costs, allowed to integrate a commercial culture leading to new business frameworks and new productivity benchmarks. At BNF, librarians appropriate IT, initially conceived to declare a new war between ancients and moderns. Doing so, the external technological paradigm shift is endogenised to become a socio-organisational paradigm shift.
- When endogenising the crisis, the entrepreneur makes the system evolve through the enrichment of its knowledge base. This is consistent with Joël Mokyr’s approach on useful knowledge. Mokyr defines useful knowledge as the underlying structure of an evolutionary model that he calls the “propositional” knowledge (or knowledge “what”) containing but not confined to scientific consensus knowledge but also a set of beliefs, traditions, superstitions and other knowledge systems that would explain why something works. This knowledge maps onto artifacts, or techniques (managerial recipes are such techniques), that Mokyr names “prescriptive” knowledge (or knowledge “how”). The building of artifacts feeds back on propositional knowledge, while techniques reproduce themselves through learning by doing, as shown in figure 4 (Mokyr, 1998).

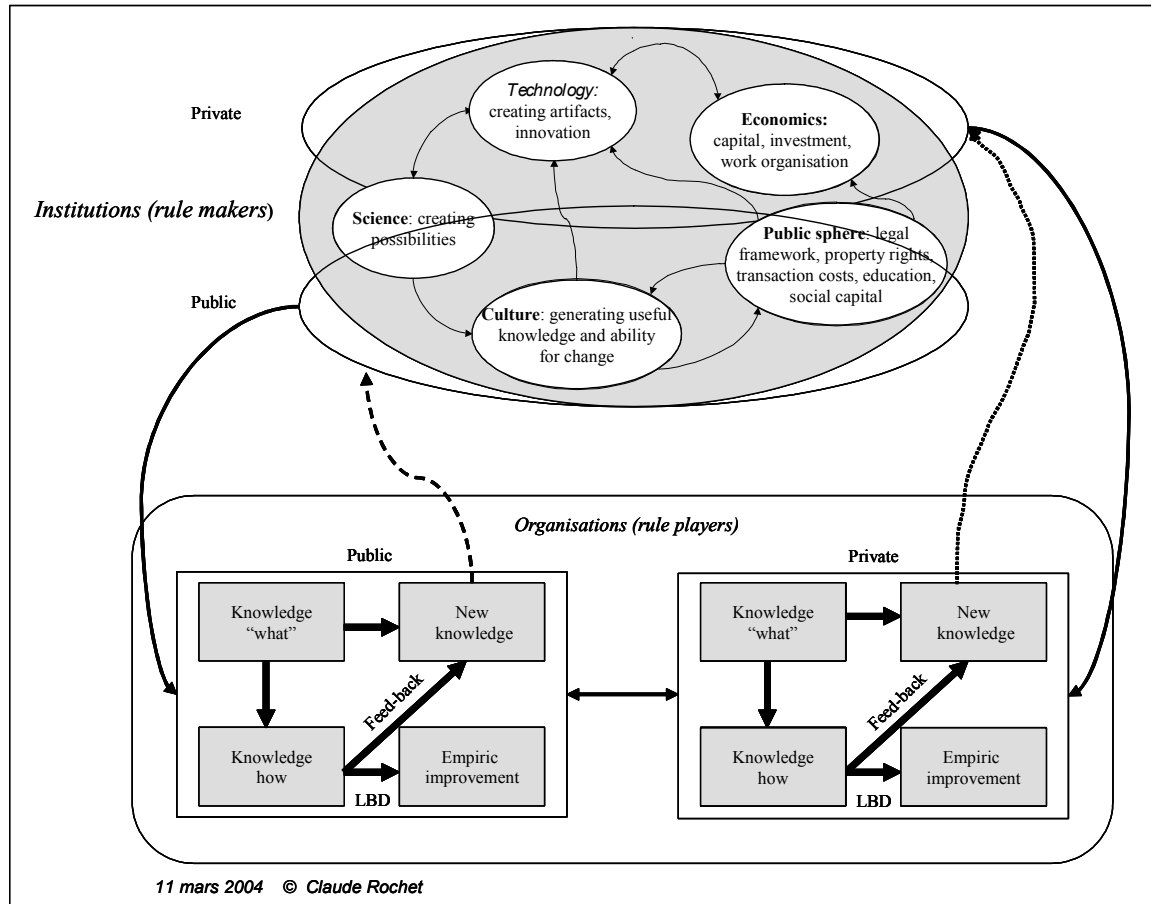


Figure 4: On this figure we couple North's distinction between institutions as rule makers and organisations as rule players and Mokyr's knowledge creation process in organisations. The managerial knowledge base maps onto organisational patterns that evolve through learning by doing. New patterns emerge and give feed back to the knowledge base, helping create new knowledge. This new knowledge gives poor feed-back toward public institutions.

- The key point for the leader is to improve the organisational knowledge base through what Ronald Heifetz calls “adaptive work”: “adaptive work is required when our deep beliefs are challenged, when the values that made us successful become less relevant”. Adaptive challenges are not technical problems that would be solved by adopting a set of recipes. We agree with Heifetz that leadership is not “another technique to make people align with leader’s vision but learning consisting in engaging people in confronting the challenge, adjusting their values, changing perspectives, and learning new habits” (Heifetz, 2002)

The weakness of NPM is that it deals only with recipes – or knowledge “how” – and is not preoccupied in triggering this adaptive work that will give feedback on the propositional knowledge – or knowledge “what” – that contains the real informal rules that will foster or impeach change. Since 1800, says Mokyr, prescriptive knowledge has not survived without a propositional knowledge base (Mokyr, 2003). That is what happens with NPM. Giuliani, who was amongst the most radical NPM mayors, was the one who applied least its principles and gained the best results. He chose from the NPM agenda “to conform to his own political agenda and in response to the political environment in New-York City” (Weikart, 2001). Practically, NPM practitioners had to give up with its prescriptions to find serendipitously more convenient solutions that would enhance the content of their prescriptive



knowledge. In the competitive sector, organisations no longer think about their strategy solely in terms of structure or managerial recipes, but in terms of organisational capabilities as well. By capabilities we mean core competencies that are the result of the accumulated propositional knowledge by learning-by-doing. Ongoing research by Roger Miller shows that competencies tend to cluster in “strategic games of innovation” and that the art of management in the new paradigm is to understand the game one is playing and the competencies required to succeed at the game (Miller & Floricel, 2003). This focus on playing with competencies makes change a continuous process avoiding hard adjustment crises and could become a major preoccupation for public managers. As a consequence, the training and selection of managers is critical: leadership relying on an intuitive comprehension of system dynamics and of the path of transition toward a more complex but stable architecture is essential. Such qualities are not widespread among managers in the public sector while organisational transformation and radical change has become familiar to those in the competitive sector.

The prevalent public sector framework is that a system may not be changed without a change in the legal framework or without a rise or a decrease in resources allocation. Politicians fear crisis. They, therefore, seldom provide the necessary leadership to manage it as a momentum for change. Our survey shows that there are not any cultural or institutional inabilities for managers to integrate, by learning by doing, the rules of the game of the new paradigm and to play with it. But, reversing the actual path dependency does not only require learning by doing but also learning-before-doing to introduce new patterns in the manager’s mental maps (Pisano, 2000), say new propositional knowledge. As Mokyr put it, “When an existing technique needs to be extended or adapted to different circumstances, the content and extent of the epistemic base become important (...) trial and error might work, of course, but it is more uncertain, slower and more expensive” (Mokyr, 2003, p. 14). A theoretical approach is necessary, leading to the creation of new managerial knowledge that would be implemented through the initial and continuous training of public managers so as to give up the prevalent technocratic culture.

### ***How crises at the organisational level may help institutional innovation?***

History is not made of institutional crises but of continuous incremental adjustments. North emphasises on this point “It is the dominant way by which societies and economies have evolved” (North, 1990, p. 101). Institutions are able to learn and obey the principle of increasing returns that define their path dependency. Crises happen when the macro-level incentives provided by the institutional framework diverge from the micro level techno-economic activity. Crises take place at the climax of the mismatch between the new and the old institutional paradigm. The stronger the mismatch, the stronger the crisis. Crisis management is then required to reverse the path dependency through changes in polity.

It could be hypothesised that fostering the organisational learning process within public sector would help to shorten discontinuities with economic, social and political institutions and to update decision makers’ mental maps to design such policies. That would assume that the knowledge created in organisations would give feedback on institution’s cultural framework as a rule maker, as shown in figure 4, leading to the building of new rules with a better ability to support entrepreneurship at the organisational level. But institutional innovation is more than the sum of innovative organisational breakthroughs. It has to be a learning process in itself that could explain why these successes could lead to new rules.

In my survey of public agencies in France (Rochet, 2002), benchmarked against other OECD countries, I clearly made obvious that agency, as an organisational solution, may conciliate the sense of public service and entrepreneurship, and improve managerial capabilities. Agencies would play the

role of a nursery of new managerial knowledge and new public managers able to build the new paradigm formal and informal constraints.

This is not the case. Two reasons may be invoked. First, designing a new institutional framework needs more than the sole feedbacks from organisational innovations. These feedbacks signpost elements of a new trend in public management that would require special attention from politicians. But the knowledge “what” built in organisations for the rule players is no more than knowledge “how” for public institutions as rule makers. Creating new institutional knowledge in policymaking would be complemented by foresight, scenario planning and long term policy planning. The momentum for change, in institutions, is *before* the crisis by improving the art of the *phronesis* (practical wit in Aristotle) to be confronted with the caprices of the *fortuna*, which constitutes the *virtù* of a political leader according to Machiavelli. Change requires ordering leaders' perceptions about alternative future environments in which today's decisions might be played out. Scenario planning has to embrace qualitative perspectives and the potential for sharp discontinuities that incumbent econometric models exclude. Creating scenarios requires decision-makers to question their broadest assumptions - *i.e.* to question their knowledge “what”- about the way the world works so they can foresee decisions that might be missed or denied. On the contrary, present policy making mainly relies on reacting to crises, and doing so, reinforces the policies' sectorial character and prevent it to comprehend complex issues. For instance, rethinking social security issues (about 24% of French GDP) requires embracing demographics, ageing, new diseases impacts, the future of economics, weighing risks and not only the reengineering of social security organizations.

Second, as a consequence, the cultural trend might favour such a process. Although each great French town's newly elected mayor has to embark on a compulsory trip to NYPD to learn about CompStat and to give up the prevalent candid attitude toward crime, the present trend is unlikely to create new knowledge in policy making. The 1990s fashions of “the end of history” or “new economy” played down the role of policy making, inducing policy makers to rely either on the believing in “progress” and others “singing tomorrows” as a sustainable trend toward a better life denounced by Pierre- André Taguieff or on the cult of the market, coined by Stiglitz as “market bolshevism”. According to Taguieff (2000), such beliefs lead to the “erasing of the future” and the abandoning of policy making. The classical “governing is foreseeing” is coming into “governing is following” ideological fashions.

It is possible that this trend is likely to reverse. The rapidly growing literature of the new institutional Economics (NIE) revives the old school that draws on economic history, political science, sociology and psychological economics. Through a thorough review of this literature, a recent OECD study concludes that there is a correlation between a strong State and institutional quality (OECD, 2004). We demonstrated (Rochet 2005) that a “strong state” doesn't imply a strong and resilient bureaucracy that would cancel, by its decreasing returns, the benefit of institutions on the wide range of transaction costs. On the contrary, ability to monitor change and to manage crises at the organisational level exists and may not be given as a pretext to political passivity in managing the adjustment process. This very adjustment process' Achilles' heel relies on the cultural framework of policy making. But, we leave here the domain of public management to enter into the very source of “the crisis of our times” stemming, as Leo Strauss put it, from the abandoning of political philosophy, which is Aristotle's interrogation on what is a good society.

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## **CREATING AND SUSTAINING ORGANISATIONAL CHANGE: IMPLICATIONS OF THE COMPETING VALUES APPROACH**

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The Competing Values Approach (CVA) for organisational analysis now has been in use for over a quarter century (Quinn and Rohrbaugh, 1981, 1983; Rohrbaugh, 1981, 1983; Rohrbaugh and Quinn, 1980). In fact, the quadrants depicted in the CVA to identify four alternative but simultaneously essential aspects of organisational performance had been well articulated even 25 years earlier in Parson's theoretical description of the functional prerequisites for any system of action (see, for example, Parsons, 1959; Hare, 1976, 12-15). Denison (1990) has illustrated how these quadrants are foundational to an understanding of organisational culture. Thus, the four key aspects have been termed

- Pattern maintenance; the involvement culture; the human relations model;
- Integration; the consistency culture; the internal processes model;
- Goal attainment; the mission culture; the rational goals model; and
- Adaptation; the adaptability culture; the open systems model.

The juxtaposition of the quadrants indicate their common values (e.g., the internal processes and human relations models attend to essential functions within the organisation; the internal processes and rational goals models place priority on maintaining organisational control). Improvement in performance in any one quadrant potentially can advance performance in the quadrants at its sides, since values are shared (e.g., increased adaptation through open systems can assist with better goal attainment—common external focus, as well as enhanced human relations—both place value on flexibility). Problematic organisational tensions, however, are widely observed to develop across the diagonal quadrants: a) competition between goal attainment (with external, control values) and human relations (with internal, flexibility values); or b) competition between open systems (with external, flexibility values) and internal processes (with internal, control values).

When an organisation is called upon to make a systemic change – because there are evident problems in its ability to adapt effectively to its environment (or because there are evident opportunities to be exploited through the redirection of resources), its “readiness” capacity depends upon how successfully it meets the criteria for effectively open systems. The adaptability required for altering existing structures and stable routines can be amplified both by strong human relations and by strong goal attainment already pre-existent. Conversely, historically weak human relations and weak goal attainment can only interfere with effective organisational change. It is important to note, however, that an excessive emphasis in the directly opposite quadrant on internal processes (i.e., a dominant consistency culture), can be expected to work against organisational change. Insistence on maintaining the primacy of internal, control values leads to considerable challenges when the new primacy of external, flexibility values is advanced.

**Implication 1:** The initiation of sizable change should be undertaken only after effective human relations (e.g., meeting high standards for stakeholder cohesiveness and skill development) and goal attainment (e.g., meeting high standards for planning and productivity) already have been achieved. Any rigid internal controls—and the units responsible for them such as information management, financial management, personnel management, equipment or space management—should be somewhat attenuated in authority in advance of any change effort.

Soon after the development of the CVA framework for organisational analysis, Quinn (1984) began to draw out its implications for managerial leadership performance. He identified eight leadership roles, two associated with each CVA quadrant (Quinn, 1988; Quinn *et al.*, 1990)

- Human relations model: facilitator role and mentor role;
- Internal processes model: coordinator role and monitor role;
- Rational goals model: producer role and director role; and
- Open systems model: innovator role and broker role.

Although the primacy of these role pairs often is associated with distinct hierarchical levels in an organisation (i.e., facilitating and mentoring at strata I and II—shop floor and section; coordinating and monitoring at strata II and III—section and unit; producing and directing at strata III and IV—unit and division; and innovating and brokering at strata V and VI—subsidiary and corporate group) as described by Rohrbaugh and Eden (1990), genuine leadership at every level requires appropriate skills in all eight roles.

From shop floor to corporate group, the CVA leadership framework suggests that all effective stakeholders should be prepared to be facilitators, mentors, coordinators, monitors, producers, directors, innovators, and brokers, polishing their skills in their strong quadrants and building their skills in the weaker areas. Although the nature of relevant skills will vary across levels (e.g., shop floor workers learn how to monitor their own work effectively, while section supervisors learn how to monitor the work of others effectively), all eight roles are key to leadership success. Nevertheless, because the leadership quadrants reflect the same competing values as in organisational analysis, simultaneous enactment of roles across the diagonals is often challenging. Assuring that the requisite work is accomplished in a timely way (the producer role) is difficult to achieve while investing considerable effort in the support and development of others (the mentor role). Initiating experimental projects and creating new joint ventures (the innovator role) would appear to interfere with maintaining tight and constant logistical control (the monitor role). Evidence suggests that highly effective leaders, in fact, do exhibit a considerable degree of behavioural complexity as they fulfil their organisational responsibilities (Denison, Hooijberg, and Quinn, 1995).

Leaders of divisions (stratum IV), subsidiaries (stratum V), and corporate groups (stratum VI), although functioning increasingly as innovators and brokers (i.e., open systems roles) at higher organizational levels, are not excused from the diagonally opposing duties of monitoring and coordinating (i.e., internal processes roles). The risk to their organisations, of course, is that, as they spend greater amounts of time “spanning boundaries,” “scanning environments,” and “building networks,” the lure of enhancing external legitimacy and accumulating political power, albeit truly in the collective interest, works against the priority of internal, control values. Absentee landlords lose contact with the key stakeholders within their organizations and the in-house conflicts of interest and authority that are likely to arise. Without the ample internal monitoring and coordination roles appropriate, even essential, to the leadership of divisions, subsidiaries, and corporate groups, overall organisational effectiveness deteriorates even as increased organisational change is evoked by the most senior managers.



**Implication 2:** The initiation of sizable change should be undertaken only after all key stakeholders at every level of the organisation have learned the importance of open systems values (i.e., appreciate the extent to which effective organisations benefit from flexibility and a readiness to change) and have thoroughly practiced their personal innovating and brokering skills. In advance of any change effort, senior managers should demonstrate that they fully understand the values of internal processes and have explicit and hands-on plans for paying due diligence to operational stability and control, that is, being an active presence, continuously and vigorously exercising their own significant leadership roles as monitors and coordinators.

Rohrbaugh (1987, 1989; McCartt and Rohrbaugh, 1989) extended the CVA framework to serve as the basis for assessing the effectiveness of expert teams and decision-making groups.

This approach explicitly ran counter to the prevailing view that “good” outcomes from group processes would confirm their effectiveness, while “bad” consequences would serve as an indictment. Reagan and Rohrbaugh (1990), for example, argued at length that no convincing research design existed for supporting any particular method of group deliberation on the basis of observed results over time. Instead, they insisted that the evaluation of group decision-making effectiveness requires directing primary and immediate attention to the group process itself, not waiting to measure subsequent outcomes. Four alternative perspectives concerning effective group processes match the functional prerequisites of Parsons (1959) and, thus, the CVA quadrants

- Consensual perspective (pattern maintenance; the human relations model);
- Empirical perspective (integration; the internal processes model);
- Rational perspective (goal attainment; the rational goals model); and
- Political perspective (adaptation; the open systems model).

The measurement of group performance from a *consensual perspective* focuses on full participation in meetings, with open expression of individual feelings and sentiments. Extended discussion and debate about conflicting concerns should lead to collective agreement on a mutually satisfactory solution. As a result, the likelihood of support for the decision during implementation would be increased through such team building. This very interpersonally oriented perspective is dominant in the field of organisation development.

Evaluators of collective decision process who take an *empirical perspective* stress the importance of documentation. Particular attention is directed in this performance measurement approach to the ways in which groups secure and share relevant information and develop comprehensive, reliable databases to provide appropriate forms of decision support. Proponents of this perspective, typically trained in the physical and social sciences (especially management information systems) believe that, to be effective, a group decision process should allow thorough use of evidence and full accountability.

The priority of clear thinking as the primary ingredient for effective decision making is the hallmark of the *rational perspective*. From this very task-oriented approach (particularly common in management science and operations research), any decision process should be directed by explicit recognition of organisational goals and objectives. Methods that efficiently assist decision makers as planners by improving the consistency and coherence of their logic and reasoning would yield positive group process assessment.

The *political perspective* suggests an approach to performance measurement where group flexibility and creativity are the paramount process attributes. Idea generation through brainstorming

would be assessed on how attuned participants are to shifts in the problem environment and on how well the standing of the group is maintained or enhanced. The search for legitimacy of the decision—its acceptability to outside stakeholders who may not be immediate participants but whose interests are affected by the group’s deliberations—would be notable through a fully responsive, dynamic process.

The dominance of any one perspective—with its implicit value priorities—in the design of collective decision making can lead to an ineffective and inconsequential process. For example, emphasis on political flexibility that continuously shifts the “playing field” and even the “rules of the game” can be detrimental to the factual grounding of the process and ultimate accountability. Constructing a highly participatory forum involving a wide variety of stakeholders with long-standing conflicts to resolve may achieve eventual consensus but at the expense of a well-controlled and rationally efficient process. It is a difficult task to choreograph the dynamic interaction of a group, large or small, over time so that flexibility and control are simultaneously achieved and so that internal and external interests are both served. In any organisational change, this full orchestration must be achieved at least *three* times and in *three* distinct ways: to diagnose the systemic problem, to propound a systemic solution, and to design an implementation approach.

**Implication 3:** The initiation of sizable change should be undertaken only after a well-considered, three-stage plan for collective decision making has been established, carefully sequencing group processes for diagnosing the problem, propounding a solution, and designing implementation. In advance of any change effort, mechanisms should be in place to assure that each stage fully respects consensual, empirical, political, and rational values by choreographing a simultaneously participatory, data-based, adaptable, and goal-centred process. In any sizable change, the group decision-making process at the conclusion of each stage should be thoroughly evaluated before subsequent meetings are convened.

There are many more implications of the CVA framework for radioactive waste management (RWM) that are beyond the scope of this brief paper (see, for example, Vari, Reagan-Cirincione, and Mumpower, 1994). Nevertheless, the three practical implications specifically addressed here should have some value in contributing to improvements in RWM programs and enhancing the cultural and structural change processes that are occurring within RWM organizations.

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## EXPERIENCE WITH ORGANISATIONS IMPLEMENTING OPENNESS AND TRANSPARENCY: NIREX CASE STUDY

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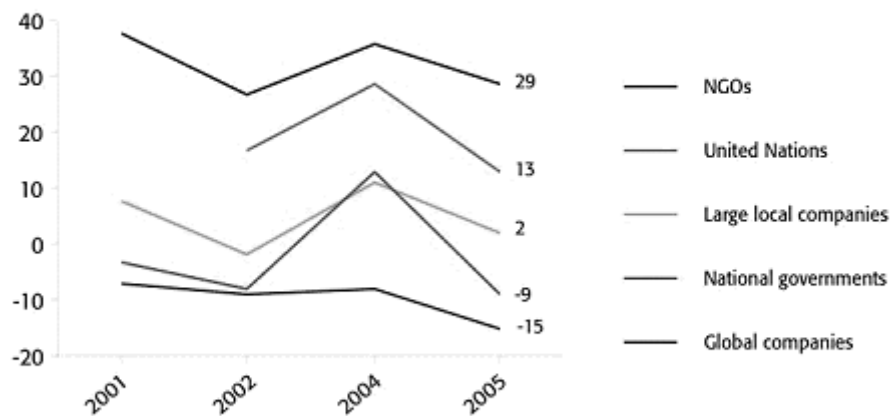
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Recent research from the World Economic Forum has shown that there are declining levels of trust across institutions.

### Overall Changes in Trust since 2001

Average of 14 Tracking Countries



Q. 6t

	2005	2001
1.non-governmental organizations	29	38
2.the United Nations	13	n.a.
3.large local companies	2	8
4.governments	-9	-3
5.global companies	-15	-8

Further research shows that lack of transparency is one of the main causes of this lack of trust.

Many countries have put in place far reaching national legislation to ensure transparency of government and freedom of information for citizens with respect to public bodies. Some have even legislated so broadly as to enforce the public's right to information with regard to private bodies. A number of countries, have legislated to enforce a public right to certain information from companies that are performing public functions<sup>12</sup> or where there are particular environmental concerns.<sup>13</sup> At the moment however, only South Africa has enacted freedom of information legislation that gives members of the public a broader right to information from private bodies themselves.<sup>14</sup>

Although companies are not generally obliged to act in an open and transparent manner, many now regard this as good business practice.

A number of companies have responded to demand for greater transparency by providing information about their social and environmental performance and impact for public consumption. However, with no legislative framework or other authoritative standard-setting for such reporting initiatives, it is largely left to the companies themselves to decide both the manner and substance of what they report. As a result of the lack of regulation, a number of high-profile self-regulatory initiatives have emerged to guide companies in achieving openness and accountability. These voluntary initiatives include, among others,<sup>15</sup> international business reporting guidelines such as the Global Reporting Initiative and the Sullivan principles, environmental guidelines such as the CERES principles and assurance standards such as the AA1000 Assurance Standard. Such codes provide general principles which should serve as the basis for the company's reporting philosophy, as well as more detailed guidelines which provide a framework for the specific information that is presented by the reports.

### **The Nirex experience**

Radioactive waste has been created since the 1940s. Much of it comes from nuclear power stations and from reprocessing fuel for reuse. Some comes from nuclear weapons and operating nuclear submarines, some from scientific research and some from medical processes to diagnose and treat diseases like cancer.

Some waste contains very low concentrations of radioactivity and is relatively harmless. In other types, such as high-level waste, the concentration is so high that there must be physical barriers to protect people and the environment.

Some waste will remain radioactive for billions of years whereas some will lose its radioactivity in a matter of a few years. This factor must be considered in the management of radioactive waste.

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12. For example, Chilean access to information law grants access to information held by private enterprises that are performing public functions and subject to governmental control by public monitoring bodies.
  13. For example, Norway, Canada, some US states see <http://home.media.am/CSDU/contentsoffoi.htm>. The New EU Directive on public access to environmental information (2003/4/EC) will require member states to legislate on public access to environmental information that will include companies performing public law functions.
  14. See [http://www.privacyinternational.org/countries/south\\_africa/access\\_info\\_bill.pdf](http://www.privacyinternational.org/countries/south_africa/access_info_bill.pdf) for a copy of the Act.
  15. For links to many of the principles and guidelines see <http://www.iblf.org/csr/csrwebassist.nsf/content/a1a2c3d4.html>.

The UK has for over fifty years been grappling with the problem of what to do with intermediate and high-level radioactive waste. During that time there have been advances in scientific understanding and changes in both government policy and public opinion.

Nirex is a state owned company charged with the long-term management of radioactive waste. It carries out scientific, engineering and social science research to identify safe and environmentally sound ways for handling with radioactive waste in the long term, an immensely controversial issue. It has a specific responsibility to advise the nuclear industry on how to treat and package radioactive waste and is charged with liaising with stakeholders and the wider public about the management of radioactive waste to ensure public acceptance of the options pursued.

Established in 1982 by Margaret Thatcher's government, Nirex operated at first in great secrecy, following an approach that only scientists and engineers could understand the complex issues involved. It set about trying to identify how best to dispose of the nuclear waste that had accumulated as a result of both the military and civilian programmes. A widespread geological survey was conducted throughout the country, which found that over 40% of the sub-soil would be suitable for a geological depository. Drilling rigs were dispatched throughout the country to explore but with no public consultation. A shortlist of ten sites was drawn up but never published, giving rise to a great deal of speculation about which sites were included and why.

Finally in 1997 Nirex's proposed 'Rock Characterisation Facility': which would form the first stages of construction at the proposed nuclear waste repository site at Sellafield in Cumbria was recommended to the government. Public opposition was so intense the government rejected the scheme. Nirex had spent over £200m and fifteen years to get to this point. Most of the Nirex Board resigned and a new Board decided to reverse their traditional approach and adopt a policy of transparency and openness.

In consultation with others, Nirex has reviewed its approach in the light of lessons learned from the past, other countries' experience and recent academic research. The review shows that if a widely acceptable solution is to be found, there will need to be a widespread consensus on three key themes. These are the process through which any solution is decided; the structure of the organisations charged with overseeing and implementing the solution; and the behaviour of those organisations and the individuals within them. These themes are linked by the concept of transparency that lies at the heart of the new Nirex approach. To this end Nirex has adopted a Transparency Policy and created an Independent Transparency Review Panel.

## **Ethics**

This stems from Nirex's belief that radioactive waste management is ultimately an ethical issue. Radioactive waste exists and will exist for thousands of years. Society needs to face up to the responsibility of its long-term management. Essentially, therefore, the management of nuclear waste is as much a social and political problem as it is a scientific and technical one.

For these reasons Nirex after 1997 took a radically different approach to the one adopted before. It came to support the view that future policy development in the field of managing nuclear waste must be based on deliberative consideration and consensus building. Such an approach will inevitably take time but is necessary in order to win society's consent to waste management and reach the right solution in the right way.

Nirex's view was supported by research it commissioned from J Hunt and B Wynne of Lancaster University. This project entitled "Forums for Dialogue: Developing Legitimate Authority through

Communication and Consultation" emphasised the need for pro-active stakeholder dialogue that includes the general public. One specific conclusion of this research was that Nirex had to map public and stakeholder concerns that would have to be dealt with in any consideration of radioactive waste policy.

Of course some of these issues are generic to all government action. Consultation and dialogue are the means by which legitimate authority can be gained for government policy development and achieving public acceptance of specific policy solutions.

Nirex's came to the view that there must be a clear, phased decision making process that:

- has been developed in consultation with all stakeholders;
- has clear decision points;
- explains how decisions will be taken; and
- provides opportunities for stakeholders to make inputs.

The whole process of decision making must be transparent and inclusive. The pace of progress—the speed at which the process moves from one phase to the next—should be determined by the time needed to obtain stakeholder inputs, and not be driven the company. Only when there is sufficient consensus should the process move on to the next phase. The process should include "checks and balances", particularly so that the behaviours of all the players can be analysed and reviewed. Early regulatory involvement (at the concept stage) is also seen as crucial.

Nirex has also commissioned research on the ethical context of the relationship between society as a whole and any host community for a waste management facility. This work has focused on the implications of the behaviour of Nirex. This research concluded that, in addition to a properly instituted process and structure, delivery of a long-term implementable solution for radioactive waste management would be dependent on the behaviour of those involved in the process. The behaviour must be:

- Open—the debate must take place in the public domain and there should be free access to all the relevant information. Those involved should be open to influence from different people with different opinions and perspectives;
- Transparent—the reasoning behind actions, deliberations and decisions should be made available. It must be clear from the outset how stakeholders and the wider public can be involved and how their opinions will be taken into account and used;
- Accountable—those responsible for the process should be accountable for their actions to all parties. This includes publicising the reasoning behind decisions and giving people feedback on how their views have been taken into account.

Information should be made readily available and stakeholders should have the opportunity to influence the programme of work that is undertaken.

### **Support to the process**

One visible manifestation of this approach is the Transparency Policy. This has five key aspects

- Fostering openness as a core value
- Listening as well as talking to people who have an interest



- Making information readily available under our Publications Policy and responding to requests for information under our Code of Practice on Access to Information
- Making key decisions in a way that allows them to be traced so people can see and understand how they were arrived at
- Enabling people to have access and influence over our future programme.

One of the main aspects of this is that there must be "access to and influence on the programme". Nirex has also created an Independent Transparency Review Panel, currently comprising myself, Andrew Puddephatt (Chair), James Amos a freedom of information advisor at the Constitution Unit at UCL; Professor Patrick Birkinshaw, a legal expert from Hull University; an environmental specialist lawyer, Justine Thornton and a former senior police officer, Greg Wilkinson.

This body acts as an appeal mechanism and as a way of independently cross-checking Nirex's work. Our remit allows us to carry out annual reviews and suggest further improvements directly to the Executive Board. The key objectives of the Panel are:

- to review, scrutinise and comment on Nirex's progress in meeting the commitments made in the Company's Transparency Policy;
- to review and investigate appeals from stakeholders under the Company's obligations to comply with the Freedom of Information Act and the Environmental Information Regulations;
- to provide independent advice to Nirex on matters related to Transparency

For all three aspects, the role of the Panel is to make recommendations to Nirex about actions that the Company should take in relation to transparency and openness. It is for Nirex to decide whether to accept or reject the recommendations.

The findings of the Panel's reviews are in the form of written reports to the Nirex Executive via the Director of Safety and Environment. The Panel's reports and Nirex's responses are published by Nirex.

All of this is completely separate from and in addition to the legal rights enjoyed by people requesting information under the Freedom of Information Act and Environmental Information Regulations, which are statutory rights.

Nirex worked with the panel and with independent consultants and stakeholders to develop an understanding of what an institutional culture based on transparency would mean in practice. This includes the concepts of:

- preview—debating the scope of scientific and technical work programmes with stakeholders before the work is undertaken; and
- setting up forums for stakeholders to express their concerns and demonstrate how these discussions impact on the overall company direction.

Of course all of this work was complicated by a general suspicion of nuclear industry and Nirex' association with it, including the past secrecy about the 1997 recommendation to explore the Sellafield area as a likely site for disposal of waste.

## **Independence**

Nirex tried to challenge historic perceptions by demonstrating its openness in a consistent manner and by securing, after lengthy negotiation, independence from the nuclear industry. This change included the transfer of Nirex's shares to a new holding company owned by the UK Government and the appointment of a new Board.

The shares in Nirex, previously owned by the nuclear industry, have been acquired by a new Company Limited by Guarantee, jointly owned by the Department for Environment, Food and Rural Affairs and the Department of Trade and Industry. Under the arrangements Nirex will also remain independent of and separate from the Nuclear Decommissioning Authority (NDA), with funding coming through the NDA via a funding agreement between the two parties.

Under the new arrangements, a new Board was put in place with five non-executive Directors, drawn from a wide-range of backgrounds, and four executive Directors.

In June 2005 Nirex published the background information to the 1997 recommendation to locate a waste store at Sellafield. This included details of the site selection process that led to the old short-list, including the names of those sites that were considered at earlier stages of the process and subsequently ruled-out, information which had been the subject of much speculation.

Nirex also has a good record at dealing with request for information. The main problem it has is when staff write articles for specialist journals, they find that the journal copyright can prevent them from releasing the article to an inquirer. Apart from this there are very few complaints.

## **Conclusion**

Overall Nirex can claim a reasonable degree for success. A recent external review of stakeholder involvement found that stakeholders rate Nirex as good to very good at involving them.

- It provides good quality information in a timely fashion
- Is confident, flexible in its approach and listens to stakeholders
- Has achieved independence of the nuclear industry
- Is technically competent and provides good quality advice and support to the organisations with whom it interacts
- Is seen as a responsible organisation that has become more open and transparent
- Collaborates well with regulators and industry actors in furthering stakeholder involvement.

The key to its success is its long term commitment to transparency and its realisation that managing nuclear waste, above all challenges, is an ethical issue as much as a technical issue.

## **EXPERIENCES WITH HELPING ORGANISATIONS TO IMPLEMENT A LEARNING CULTURE AND TO SUSTAIN CHANGE**

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### **I. Introduction**

The intention of this paper is to explore the theoretical frame of organisational learning and sustaining organisational change and to develop some ideas of helping organisations to implement a (sustainable) learning culture. As innovation researcher I take the implementation of an organisational learning culture as an innovation and explore conditions for an organisation to install this kind of innovation that, in my view, is not necessarily compatible with the idea of sustaining organisational change. My experiences are mainly based on the relationship between innovation and sustainability (see Blättel-Mink 2001; Blättel-Mink/Renn 2003).

### **II. Organisational learning or sustaining change? Six working theses**

#### ***Ubiquity of organisational change***

It is not that we have to ask how we can help organisations to sustain change, because change in organisations and of organisations is a ubiquitous phenomenon. Three groups of ongoing change can be observed: *development* (i.e. growth – see contingency theory; life cycle – see Quinn/Cameron 1977), *cristallisation* – see Masuch 1985), *selection / open system model* (evolution – see Tushman/Rosenkopf 1992); population ecology – see Hannan/Freeman 1977) and organisational learning (single loop, double loop, deuterio – see Argyris/Schön 1977).

The objective to sustain change is related to “incremental innovation”

With incremental innovations I mean innovations that stem from outside the enterprise /organisation, e.g. environmental ordinances, pressure groups, ecological commitment) – “ecology pull”/“regulatory pull” (see Kirchgeorg 1990), i.e. innovations towards sustainability in general are not based upon the logic of economising. Stakeholder involvement in organisational decision making is kind of a directed change (instead of open change), or: “good change”. Frieder Meyer-Krahmer (1997) developed three steps on the way towards decoupling of economic growth and exploitation of (natural and social) resources: increasing use of environmental technologies, life cycle assessment, integral production politics and use of products. The stakeholder approach is kind of the latter as different actor groups are systematically involved in planning, producing, trading of products.

To sustain change can be an obstacle for the implementation of a culture of organisational learning

The reasons or the necessity for organisations to learn can be identified in changing situations (external or internal) determined by life cycle, culture, structure, sector, size and so on (see Argyris/Schön 1978; March/Olsen 1976, Thomae 1996). An organisation learns when it is able to observe itself and its environments: “learning by experiencing”, e.g. integrate stakeholder interests into organisational planning. If the situation of an organisation changes, e.g. “Birds’ dying”, the idea, the objectives of the organisation could change as well, and this could be interpreted as successful learning. This is the reason why, when talking about “sustainable innovation systems”, we talk about systems where each part of the system is relying on integral sustainable development – not only structure/form but also content. Organisational change towards stakeholder integration should be sustained and internalised – directed change. Organisational learning implies that stakeholder integration, or sustainability, are ideas that can be replaced by changing situations, e.g. globalisation, i.e. new ideas that promise to increase the competitiveness of an organisation.

Sustainable stakeholder learning is a multifaceted process of learning

Peter Pawlowsky (2000) deduced “a conceptual framework for the management of organizational learning”. He differentiated: learning types (single loop, double loop, deuterio); learning modes (cognitive, culture, action learning), system level (individual, group, organization, interorganizational), and the stages of the learning process (identification/creation, diffusion, integration, action).

Sustainable stakeholder learning is double loop learning (changing espoused theories of action by integrating interest groups into production process and by installing a culture of communicative action; see Habermas 1981), cultural and action learning, inter-organisational learning and the integration of stakeholders in all stages of change. But, are stakeholders orientated towards sustainability?

Ongoing learning from and with stakeholders challenges the involvement of all related interests **(Kaldor-Maximum; see Scharpf 1996)**

Innovations towards sustainability lose their normative momentum if all interests are involved – given a global culture of sustainability. In order to gain such a Kaldor-Maximum, i.e. welfare for all actors and groups involved, i.e. win-win-situation, also nature has to be involved, labour interests have to be involved and so on. The concept of actor-network theory (ANT) by Latour, Callon, Akrich et al. (see e.g. Callon/Law 1989) is quite close to this idea. Given a single problem, as radioactive waste management in times of Iran policy towards new cold war, the innovative network should consist of all individual and collective actors or “actands” committed to the problem. In order to understand each other, “translation” has to take place, and a prime mover is needed who sustains the network, because more or less continually interests of members of the network are neglected or even ignored. The involvement of all actands is needed in order for the problem to be solved. During networking all actands are changing.

Stakeholder integration could be read as an inter-organizational network that entails the following characteristics:

- representatives of distinct organisations communicate
- the network is kind of an extra-everyday event whose results have to be ratified later on by all organisations/actors involved
- the network has to work mandatory, i.e. with an explicit task supported by all members of the network (see Renn)

- the network is a type of coordination beyond (market) exchange and (organisation) hierarchy (see Powell 1996)
- interdependency is a crucial condition of networks; i.e. the recognition that in order to solve individual problems the knowledge of others is needed
- trust and symmetry are constitutive elements of successful networking (see e.g. Weyer 1996)

### **III. “Good change” through organisational learning – organisational learning through “good change”**

What does this all mean in terms of helping organisations to implement a learning culture and to sustain change? In my understanding the question goes as follows: what conditions have to be given for organisations to rely upon stakeholder integration, or: under what circumstances can we speak about the compatibility of “good change” and organisational learning?

1. The recognition that stakeholder knowledge is crucial for the organisation, or: the recognition that the integration of stakeholders is consistent with the logic of economising
2. The possibility for an organisation to participate in an interorganizational (or intraorganizational) network of problem solving (trust, translation, adequate personalities, resources)
3. An institutional framework (coherent system of innovation) that fosters organisations towards “good/sustainable changes” - not only by ordinances but also by economic incentives and social pressure

### **IV. The context**

#### 1. Organisations differ – according to

- size (institutional vs context dependent organisations)
- sector or technology applied, this causes different kind of ecological / sustainable commitment, stakeholder interest
- life cycle, this causes external or internal view

#### 2. Organisational environments differ – according to

- innovativeness
- ecological / sustainable commitment
- institutional logics
- resources

#### 3. Nations differ – according to

- national culture: affinity towards nature, masculinity/femininity, degree of uncertainty avoidance, individualism/collectivism, degree of power distance, time perspective (see Hofstede 1987)
- political system
- institutional framework

## V. The conclusions

- **There is no** best practice.
- The organisation has to recognize that it can no longer solve its problems on its own.
- The stakeholder involvement has to be rational for the organisation.
- Internal as well as external networks rely on communicative action (opposite to strategic action).
- Communicative action relies on understanding, and understanding needs translation – e.g. marketing and producing, scientists and practitioners, radioactive waste managers and stakeholders – “trandisciplinarity”.
- Networking implies organisational non-reversible dynamics.
- Promotors are needed – mature, autonomous personalities that can act as members of networks and can feedback the results into everyday life of the organisation (see Manytz 1996), and they have to maintain the network until problems are solved.

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