PUBLIC MANAGEMENT SERVICE
PUBLIC MANAGEMENT COMMITTEE

KNOWLEDGE MANAGEMENT:
LEARNING-BY-COMPARING EXPERIENCES FROM PRIVATE FIRMS AND PUBLIC ORGANISATIONS

Summary Record of the High Level Forum held in
Copenhagen, 8-9 February 2001

HRM Working Party Meeting
Paris, 25-26 June 2001

Summary Record of the High-Level Forum hosted by the Danish Ministries of Education, Trade and Industry, and Finance, and organised by the Centre for Educational Research and Innovation (CERI), Learning Lab Denmark, and the Public Management Service (PUMA) of the OECD. The same document also exists as CERI/CD(2001)2.

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FOREWORD

1. On 8-9 February 2001, the Danish Ministries of Education, Trade and Industry, and Finance, hosted a high-level forum on “Knowledge Management: ‘Learning-By-Comparing’ Experiences from Private Firms and Public Organisations”, organised by the Centre for Educational Research and Innovation (CERI) of the OECD, with Learning Lab Denmark, and the Public Management Service (PUMA) of the OECD. Approximately 100 private and public sector managers, policy-makers and academics attended this forum.

2. This paper summarises the conclusions of the forum and outlines more specifically the challenges knowledge management poses for the public sector. The paper draws extensively on the CERI/PUMA paper prepared for the Forum, “Knowledge Management in the Public and Private Sectors: Similarities and Differences in the Challenges Created by the Knowledge-Intensive Economy”, by Jean-Michel Saussois, Consultant at CERI, and Elsa Pilichowski, Administrator in PUMA.

3. The paper also draws specifically on contributions from the following presenters:
   • Alex Bennet, Deputy CIO For Enterprise Integration, U.S. Navy, United States
   • Arne Bundgaard, Human Resources Director, Customs and Tax Administration, Denmark
   • Carsten Dalsgaard, Executive Vice-President, CIO, Tryg-Baltica, Denmark
   • Leif Edvinsson, Director, Universal Networking Intellectual Capital, Sweden
   • Peter Forsbald, Executive Vice-President and Head of Group HR, Nordea AB, Sweden
   • Pia Gellerup, Minister of Finance, Denmark
   • David Hargreaves, Chief Executive, Qualification and Curriculum Authority, United Kingdom
   • Ove Rustung Hjelmervik, Chief Knowledge Officer, Statoil, Norway
   • Hans Siggaard Jensen, Research Director, Learning Lab Denmark, Denmark
   • Jean de Kervasdoué, Chair of Health Economics, Conservatoire National des Arts et Métiers, France
   • Kazue Kikawada, Corporate Knowledge Lancer, Fuji Xerox, Japan
   • Bengt-Aake Lundvall, Professeur, Aalborg University, Denmark
   • Thorvald Moe, Deputy Secretary General, OECD
   • Jan Mouritsen, Full Professor, Business School of Copenhagen, Denmark
   • Geoff Mulgan, Head of Unit, Performance and Innovation Unit, Cabinet Office, United Kingdom
   • Dawn Nicholson O’Brien, Senior Visiting Fellow on Knowledge Creation and Innovation, Canadian Centre for Management Development, Canada
   • Morten Hvid Pedersen, Knowledge Management Consultant, Systematic Software Engineering A/S, Denmark
   • Lars Qvortrup, Professor, Department of Interactive Media, University of Southern Denmark, Denmark
• Torben Kornbech Rasmussen, Director General, Ministry of Education, Denmark
• Margrethe Vestager, Ministry of Education, Denmark
• Adam Wolf, Deputy Permanent Secretary, Ministry of Finance, Denmark

4. Their contributions are gratefully acknowledged. CERI and PUMA would also like to thank the Coloplast Group, for welcoming the participants, organizing a visit of the group’s headquarters, and presenting issues related to the management of knowledge in the company.

5. This paper was prepared by Elsa Pilichowski, administrator at PUMA, with substantive inputs from Jean-Michel Saussois, consultant at CERI. For further information, please do not hesitate to contact Elsa Pilichowski, Tel: +33 1 45 24 76 12, Email: elsa.pilichowski@oecd.org.
EXECUTIVE SUMMARY

KNOWLEDGE MANAGEMENT CHALLENGES FOR THE PUBLIC SECTOR

6. Although knowledge management itself is a new concept, organisations have always used knowledge management practices to make decisions and produce goods and services. No organisation can survive without creating, acquiring and transferring knowledge to its employees. What has changed is the relative importance of knowledge as a source of wealth-creation compared to other factors of production. The knowledge-intensive economy is characterised by a more rapid creation and destruction of knowledge. It “reflects an acceleration of change”, enabled by new information and communications technologies and requiring organisations to increase their capacity to adapt to rapidly changing circumstances.

7. While there is evidence that the great majority of leading private sector firms are now actively pursuing knowledge management *per se*, many doubt that the same systematic organisational changes are taking place in the public service organisations of most OECD Member countries. However, situations vary. Certain sectors and types of public organisations seem to be ahead of others in implementing knowledge management strategies.

8. Knowledge management has always been at the core of government tasks – inseparable from strategy, planning, consultation, and implementation – but governments are now at risk of falling behind the practices of leading-edge companies in this field. This has important consequences for the competitiveness of public organisations within a country or internationally. Recruitment is also affected as job seekers increasingly value jobs that continually improve their knowledge, providing them with future career opportunities.

9. Governments no longer have a monopoly on knowledge in their own field as information about policies and service delivery has become more directly available to citizens, lobby groups, users, etc. To keep citizens’ confidence governments are also required to increase the knowledge basis of their activities and to keep track and integrate new knowledge as it is increasingly rapidly produced. At the same time, citizens increasingly require customised policies and service delivery. This has created new demands on governments to acquire and integrate knowledge on and from differentiated groups or individuals.

A management modernisation challenge

10. The knowledge-intensive economy implies a need for faster adaptation of public policies and service delivery, as well as customised public policies and service delivery. Governments will have to be more reactive and deliver services closer to the customer. In the knowledge intensive economy, public policies and service delivery will need to adapt quickly and become increasingly customised. This will therefore have inevitable consequences on traditional hierarchies, which have been designed partly to keep service delivery and policies uniform. New technologies are only an enabler of stronger network relations. They cannot replace a deeper change in the culture of knowledge-sharing.

11. Knowledge management involves adapting classic management tools systematically to promote knowledge-sharing, including:  

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1. Presentation by Bent-Ake Lundvall, Professor, Aalborg University, Denmark

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Improving human and social capital by: i) flattening rigid pyramidal hierarchies and opening up bureaucratic divisions to promote horizontal knowledge-sharing; ii) linking performance pay and promotion to knowledge-sharing; iii) building communities of practices (group of practitioners sharing their knowledge in a specific area without working on the same specific project).

Adapting corporate/organisational capital, i.e., databases, internets, intranets, social events, knowledge workers and knowledge central co-ordinating units.

Building stakeholder (citizens, users, private firms, lobby groups etc.) capital by: i) obtaining the right knowledge on all stakeholders; l) involving stakeholders in the decision-making process.

Strengthening connections with private firms, research institutes, universities, etc.

**Anticipating, learning from and communicating on policy outcomes**

12. For some years, one of the most significant trends in public management has been the introduction of output targets and measurements. In some OECD Member countries, this trend is being supplemented by a stronger focus on outcomes. The difference is that output-focused management concentrates on organisations products and efficiency, while outcome-focused management concentrates on organisations societal achievements and their effectiveness.

13. Anticipating, learning from and communicating the outcomes of policies will be at the core of the transformation of public organisations into learning organisations. The systematic focus on outcomes is in its infancy and the establishing of the right form and level of evaluation still represents an important challenge.

**The governance of knowledge**

14. There is little doubt that the increasing importance of knowledge in policy-making and service delivery can help improve governance in the public sector by increasing the knowledge base and transparency of public activities. This will affect institutional arrangements as well as relations between providers of knowledge and decision-makers.

15. Because of the sometimes weak link between political action and its outcome (e.g. criminality might increase despite an increased number of policemen in the streets) and the political consequences of publishing data (e.g. on the number of crimes, on accidents, alcoholism, pollution, etc.), it can be difficult to “get the facts right.” To tackle this problem, some countries have created independent statistics agencies covering a wider field of public activity. To meet challenges created by the knowledge-intensive economy, institutional arrangements for the provision of data and statistics on public services and policies will need to be reviewed.

16. Governments are also increasingly required to make transparent decisions on complex issues in order to satisfy more knowledgeable citizens. In recent years, for example, political crises over complex issues have revolved around health or food scandals. Citizens have sometimes called into question the governance of food or health agencies or institutes, the relationships between lobby groups and public decision-makers, or the lack of political decision due to scientific uncertainty. Governments will be increasingly asked to provide the sources of their information and to ensure that bodies providing information and governments’ relations with them follow good governance rules.
17. It is also important to note that knowledge management could be a powerful weapon in the wrong hands. Within the community, there is a risk of capture of knowledge by those with a strong voice to the exclusion of those without a voice (e.g. through the digital divide). This exclusion introduces knowledge biases and undermines principles of equity and efficiency in the public sector. Finally, there is also a risk that some might use the new knowledge management capacity for illegitimate political influence or for invading people’s privacy. This calls for a reflection on the possibilities of strengthening institutions and processes around the management of knowledge.

Getting the information technologies right

18. A recent PUMA project showed that almost all governments regularly fail in the implementation of large IT-enabled projects. Budgets are exceeded, deadlines are missed and often quality targets are not met. Reasons for these failures include various management shortcomings deeply rooted in present-day OECD public administrations. The results of this project can be found at the following web address: http://www.oecd.org/puma/Risk/index.htm.

Knowledge as infrastructure: the role of government in promoting a healthy knowledge society

19. For the public sector, the issue of knowledge management should not be considered merely as an internal management and governance challenge for public organisations. Knowledge is in many ways a crucial public good, affecting a country’s overall competitiveness and creating new challenges for ensuring equity. The public sector has a unique role in promoting the production, use and transfer of knowledge, including:

- providing knowledge not traditionally provided by private firms (e.g. basic research);
- ensuring education and information for all;
- constructing “information super highways”; and,
- regulating knowledge production, transfer and use (i.e property rights and equity issues).
CONCLUSIONS OF THE HIGH-LEVEL FORUM ON “KNOWLEDGE MANAGEMENT: ‘LEARNING-BY-COMPARING’ EXPERIENCES FROM PRIVATE FIRMS AND PUBLIC ORGANISATIONS”

“Quickness instead of slowness
Lightness instead of heaviness
Visibility instead of secrecy
Multiplicity instead of homogeneity
Exactness instead of vagueness”

Italo Calvino in _Memos for the New Millenium_ 3

20. The OECD’s Centre for Educational Research and Innovation (CERI) has been conducting research on knowledge management for the last three years. In particular, CERI has attempted to address this issue through an understanding of knowledge and learning processes at the sectoral level. 4 It has analysed concretely the process of knowledge production, dissemination and use in the sectors of information and communications technology, health and education. One of the main assumptions of this work has been that the economies of OECD Member countries are facing a transformation comparable in magnitude to the industrial revolution. Under this assumption, knowledge has become a fundamental source of wealth creation, supplementing industrial capital and land. This shift will lead to major changes in society and within organisations. As a result, the frontiers between the private and the public sectors in the production, promotion, integration and use of knowledge will be blurred.

21. National delegates to the OECD Public Management Committee have mandated PUMA to launch a project on knowledge management in the public sector. The primary aim of the project is to understand what consequences the “knowledge-intensive economy” will have on the role and functioning of the public sector, and to take stock of knowledge management initiatives that are being put in place in the field, to face these new challenges.

22. This high-level forum addressed the following issues:

- What are the opportunities and challenges to organisations created by the knowledge-intensive economy?
- Is knowledge management a new set of management practices or is it a new way of thinking about old management tools?
- Do the public and private sectors face the same challenges?
- Is the public sector lagging behind the private sector in its knowledge management practices?
- What should the public sector adopt from the new knowledge management practices of large private companies, and where does it have to create its own strategy?

3. Cited in the presentation by Geoff Mulgan, Head of Unit, Performance and Innovation Unit, Cabinet Office, United Kingdom.

Introduction

What is the new knowledge-intensive economy?

23. Although there are different forms and definitions of knowledge, a generic definition could be the following: “Knowledge is information causing action and creation of value”, through an improved quality of products, services delivered or decisions made.

24. Knowledge has always been at the core of wealth creation and thus a significant source of economic growth. No organisation can function without creating, acquiring and transferring knowledge to its employees. What has changed, however, is the relative importance of knowledge as a source of wealth creation compared to the other factors of production.

25. The knowledge-intensive economy “reflects an acceleration of change”, enabled by new information and communications technologies and embedded in the increasing importance of intangible inputs. Ideas, information and renewal of skills and competences have relatively much more importance in an economy driven by the production of goods and services intensive in intangible capital.

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<th>Box 1. The “Learning Economy”</th>
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<td>The concept of “learning economy” might be more adaptable than the concept of “knowledge-intensive” economy. Indeed, it is unclear whether the actual stock of knowledge available at the level of the economy, or needed to run an organisation, has increased. The last decades have been characterised by an important destruction and creation of knowledge, rendering many skills and competencies obsolete. What counts is less the possession of a specific knowledge than the ability to learn and forget. Products and competences have a shorter life cycle.</td>
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<td>Source: Extracts from the presentation by Bengt-Ake Lundvall, Professor, Aalborg University, Denmark.</td>
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26. At the core of this accelerated change is a shift in emphasis on ways of learning: from “mode one” to “mode two”, and from codified to more experience-based learning. In mode one, knowledge creation is linear, with applied science preceding technology improvements. Knowledge production is carried out in an exogenous manner, in hermetically sealed research departments. Typically, firms would get knowledge from outside universities and research centres. In mode two, “knowledge is produced in the context of application and use”, which involves endogenous partnerships, interactions and networks and the absence of frontiers between utilitarian and non-utilitarian research.

27. At the individual level, competence has acquired relatively more importance than skills and qualifications. Skills are mainly acquired through formal education and training. Learning gives a person a qualification – that is, the ability to handle a certain type of situation –, while competence makes a change in qualification possible – that is, learning in situ (and thus potential for change).
The growing importance of intellectual capital at organisation level

28. The Intellectual Capital (IC) multiplier reflects the financial output of the use of human capital, or how human capital is leveraged.  

29. In other definitions, intellectual capital includes organisational capital (where knowledge is more explicit), social capital, and human capital (at the individual level, knowledge is more tacit) (see Figure 1 below).

30. The direct consequence of the knowledge economy is thus the increasing importance of the use of human knowledge compared to the stock of human capital. There is no doubt that companies will be increasingly rated on their competence and capacity to innovate.

Figure 1. The Essence of Knowledge

Source: Extract from the presentation by Alex Bennet, Deputy CIO for Enterprise Integration, Department of Navy, United States

Different pressures on organisations created by the knowledge-intensive economy

Knowledge as an increasingly important element of competitiveness

31. For private firms, the immediate consequence of the knowledge-intensive economy is the increased link between competitiveness and knowledge practices, through the following mechanisms:

- Efficiency gains by sharing tacit – or “experience-based” – knowledge;
- Increased product differentiation responding to more individual client needs – requiring more knowledge of clients;
- A reduced “time to market” for innovative products and an increased innovation rate;
- Increased interest from job-seekers in learning opportunities provided by organisations to potential employees.

Source: Presentation by Leif Edvisson, Director, Universal Networking Intellectual Capital AB, Sweden.

32. As efficiency is increasingly linked to the production and sharing of knowledge, knowledge management in public organisations will also have greater effect on the overall competitive advantage of a country.

33. In the core public service, organisational changes have not traditionally been motivated by product competitiveness. One of the exceptions is the military, which is in competition with defence forces of other countries. In the United States Navy, for example, the process that led to an increased emphasis on improving human, organisational and structural capital through good knowledge practices came from the realisation that the increased diffusion of knowledge threatened the superiority of the U.S. Navy compared to foreign defence forces.

34. The case of the US Navy can be assimilated to all public service organisations that compete with others on the international scene such as exports subsidy bodies and intelligence agencies.

35. With the globalisation of information and increased international people and capital mobility, traditional public service monopolies are increasingly in competition with foreign organisations delivering similar public services. There is little doubt, for example, that universities are increasingly in competition internationally to attract the most investments and the best students and the best professors while research institutes compete to attract the best researchers and the most funding. Public policies are also compared internationally, and citizens, lobby groups or private firms put some often contradictory pressure on governments to follow or not international models of policies. At the national level, decentralisation and deconcentration processes have also increased competition among public bodies.

36. At the same time, there is no doubt that private firms are producing a greater share of goods and services that are increasingly intensive in intangible capital, directly competing with the public sector for the delivery of goods and services such as education, science, security and access to knowledge. For example, even in countries which have traditionally had a public system of education, private firms have more and more influence on the education and training of citizens through distance learning, coaching, information and courses on the Internet. At the same time, governments are heavily investing in wiring public schools as fast as possible.

37. Another aspect of competitiveness that is affected by the knowledge-intensive economy concerns recruitment. First, it is now clear that job-seekers increasingly value jobs that continually improve their knowledge, providing them with better future career opportunities. Second, both sectors now have to recruit specialised “knowledge workers”, and new staff in general will have to demonstrate their ability to share knowledge.

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10. Presentation by Alex Bennet, Deputy CIO for Enterprise Integration, Department of Navy, United States.
Box 2. A Learning Education Sector

The issue of knowledge accounting is to a large degree dependent upon the phenomenon of intellectual capital seen as the difference between the value of a company as stated or computed as the value of its assets and the actual market-value of the company. The input of value to the educational system is the cost of its operation, the value of its output, the competence of the product, the graduates. Thus, the intellectual capital of the educational system is the competence-base of the actual economy.

The present situation of education, where learning is an increasingly essential aspect of the function of the economy, creates new demands on/to the educational system. The condition for an adequate response is that the degree of reflexivity in the system is raised.

The situation in the case of labour is that the division of labour increases its productivity. In the case of knowledge we can say that the division of production of knowledge increases productivity of knowledge. This sharing of knowledge is essential in the educational system. Division of labour simply implies an essential task for management. The division of knowledge-production and the sharing of knowledge implies two things: that knowledge is made available in a dynamic way — we can say that it circulates in networks and communities of practices — and that management is performed. An essential tool and technique for this is found in knowledge management. Here, knowledge management is recognised simply as the making explicit of what is — not essentially — tacit knowledge in the system. But the form of management is not that of control, formalised, but rather that of informal — but not anarchic — enabling, understood as the creation of a "culture of reflexivity."

Source: Extracts from the presentation by Hans Sigaard Jensen, Research Director, and Lars Frederiksen, Consultant, Learning Lab Denmark, Denmark
Box 3. An Analysis of Challenges for the Public Sector

It is a top priority for the Danish Government to place Denmark among the absolute front-runners of knowledge society.

Referring to the Report “Denmark 2010: A Sustainable Future”, the public sector seems to be facing two major challenges:

1. **Demographic Challenges**: With young people becoming a scarcer resource, the competition for talent has increased significantly. The public sector will see a relatively large number of employees retire within the next five to 10 years. This will make recruitment and retention extremely important in every government institution. In the Danish public sector, the number of permanent civil servants with lifelong employment has been gradually decreased while the number of public servants on contracts has increased. A new wage system based on individual pay has been introduced making it possible to honour individual qualifications. But the key to recruitment and retention in the public sector will be its ability to invite the young generations into a public sector with a clear mission, strong leadership and a modern approach to management, which will necessarily include a knowledge management dimension. No matter how good it gets at creating more interesting jobs and delegating more responsibility, the public sector faces increased mobility. This situation will require professional knowledge management systems to compensate for the loss of civil servants with 30 years of experience, who would incarnate the institutional memory.

2. **“Virtual” Breakdown of Government Monopolies**: The authority of governments has often been based on a monopoly of production and knowledge. In recent years, a number of public monopolies have been opened to competition, notably in infrastructure and utility sectors. However, the most significant breakdown of monopoly is going to be “virtual”, with increased competition from hospitals, schools and universities all over the world. If another OECD Member country has higher standards or more differentiated services, there will soon be a demand for the same services. The traditional authority based on a monopoly of knowledge will also disappear.

Governments are now required to systematically scan the environment for knowledge about tools and techniques used by the frontrunners in knowledge management. Benchmarking is one way of getting information about an institution’s performance and areas to improve. OECD studies and Denmark’s “structural monitoring system”, which provides a comprehensive mapping of Denmark’s international position in a number of key areas such as productivity and business conditions, welfare, transport, infrastructure, environment etc., are two examples of benchmarking that has helped Denmark in its reform agenda.

Source: Extracts from the Presentation by Pia Gjellerup, Minister of Finance, Denmark.

**“Business @ the speed of thought” and “Government @ the speed of multiple public interests”**

38. There are two aspects of the knowledge-intensive economy that exert particular pressures on public sector organisations: speed and multiplicity. Concretely, the pressures on governments to improve the knowledge base of their policies and service delivery have multiplied in recent years:

- Globalisation and privatisation of knowledge: governments no longer have a monopoly of knowledge in their field as information about policies and service delivery has become much more available to citizens, lobby groups, and users. To keep citizens’ confidence, governments are required to increase the knowledge basis of their activities and keep track of and integrate new knowledge as it is increasingly rapidly produced.

• Shift of power between governments and citizens: citizens increasingly require individualised solutions, and policy-making and service delivery have been made more complex as the public sector works with more partners. This has created new demands on governments to obtain and integrate individualised knowledge for customising policies and service delivery.

• Rapid staff turnover has replaced the culture of life-long employment, calling into question the traditional ways of maintaining institutional memory.

Managing knowledge

The types of knowledge

39. In each system or organisation, there are two broad types of knowledge that create additional value: knowledge in the system and knowledge about the system. In the public sector, for example, public management and political science would predominantly be knowledge about the system while all knowledge acquired in order to deliver services or make policies would be knowledge in the system. (See the Appendix for a description of types of knowledge required for policy making and public service delivery, Extracts from Presentation by Director Geoff Mulgan, Performance and Innovation Unit, Cabinet Office, UK). These two types of knowledge represent two different but interrelated challenges for organisations.

The essence of managing knowledge

40. There are many different definitions of knowledge management. Knowledge management can be viewed as a process for optimising the effective application of intellectual capital to achieve organisational objectives.

Information technologies are just an enabler

41. The Department of Navy realised the need for a holistic knowledge management strategy when management decided they had to break the loop of investing in IT to increase data and information which inevitably required additional IT investments (see Figure2 below).

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12 Distinction drawn by Hans Siggaard Jensen, Research Director and Lars Frederiksen, Consultant, Learning Lab Denmark, Denmark.

13 Definition by Alex Bennet, Deputy CIO for Enterprise Integration, Department of Navy, United States.
42. In this regard, a project led by OECD/PUMA has shown that the majority of large IT investments in public organisations of OECD Member countries fail. Governments are struggling with wrecked budgets, embarrassing breakdowns service shortcomings and exceeded deadlines. One of the problems identified is that organisations have no strategy or definition of what they want to achieve with their IT investments.

43. This is closely associated with shortcomings in knowledge management strategies. As shown in Figure 3, ITs are an enabler of human capital (by increasing workers capability and capacity), social capital (by allowing connectivity), and corporate capital (through hardware and software). However, ITs are just one part of a good knowledge management strategy and will be of very limited use if IT investments and changes have not been thought through taking into account the staff incentive structure, other aspects of human resources, the type of information that is going to be made available, the ways to obtain and organise data, and staff interactions.

Source: Extract from the presentation by Alex Bennet, Deputy CIO for Enterprise Integration, Department of Navy, United States.

Information can be found at the following web address: http://www.oecd.org/puma/Risk/index.htm.
Increasing organisational competence

44. According to Figure 4 below, knowledge management is a spiral enabling the socialisation of tacit knowledge, the externalisation of tacit knowledge into explicit knowledge, the combination of explicit knowledge, and the internalisation of explicit knowledge into tacit knowledge (SECI Model).

![Conceptual Framework: Knowledge Dynamics Model](image)

Source: “Four Modes of Knowledge Conversion”, by Ikujiro Nonaka/Hirotaka Takeushi, cited in the presentation by Corporate Knowledge Lancer Kazue Kikawada, Fuji Xerox, Japan.

45. Ultimately, knowledge management aims at increasing organisational competence with the same amount of individual competence (see graph below) by promoting organisational practices and approaches related to “generating, capturing, disseminating know-how and other content relevant to the organisation’s business.” “This means getting the best out of the knowledge that resides in your people, by opening up your organisation so that it moves information efficiently to where it is needed, and by getting good returns on your stakeholder relations.”


16. This definition has been developed by Karl Erik Sveiby and can be found on the following website: http://www.sveiby.com.

Adapting management tools to the new knowledge challenges

Knowledge management is not a new management tool\textsuperscript{18}

46. If we look at the results of the benchmarking survey done by Knowledge Dynamics Initiative (see Box 4), there is nothing new in the actual practices of knowledge creation in the top 10 leading Japanese companies.

<table>
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<th>Box 4. Top 10: Time Devoted to Knowledge Creation Process in 10 Leading Japanese Companies</th>
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<td>− avoid depending on document-only communication and try to have face-to-face communication when conveying a new idea to people concerned (Internalisation);</td>
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<td>− assign priorities to the things to be done for putting a plan into practice (Combination);</td>
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<tr>
<td>− use information/knowledge acquired from your friends or books to solve your problems (Internalisation);</td>
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<tr>
<td>− prepare proposals, reports, marketing materials and other documents (Combination);</td>
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<tr>
<td>− formulate a new idea through interactions or discussions with other people (Externalisation);</td>
</tr>
<tr>
<td>− formulate a new idea through contemplating by yourself (Externalisation);</td>
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<tr>
<td>− search out needs or problems through direct interactions with people (Socialisation);</td>
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<tr>
<td>− formulate a new idea by referring to past examples and events (Externalisation);</td>
</tr>
<tr>
<td>− teach tips of know-how to subordinates or colleagues through working with them (Socialisation);</td>
</tr>
<tr>
<td>− keep records of processes in which problems were solved or new ideas were formulated (Externalisation).</td>
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</table>

\textit{Source:} Results of the Benchmarking Survey implemented by KDI (Knowledge Dynamics Initiative), extract from the Presentation by Kazue Kikawada, Corporate Knowledge Lancer, Fuji Xerox, Japan.

\textsuperscript{18} Please see Appendix for: i) Necessary conditions for the effective use of knowledge; and ii) Nordea: Focusing on the relation between employees and organisation, competence and technology.
47. If the practices do not seem new, the management concepts aiming at promoting them do not seem new, either. Knowledge management is about using classic management tools in a way that systematically promotes knowledge-sharing, including:

- improving human and social capital by: i) flattening rigid pyramidal hierarchies and opening up bureaucratic divisions to promote horizontal knowledge-sharing; ii) linking performance pay and promotion to knowledge-sharing; iii) building communities of practices (group of practitioners sharing their knowledge in a specific area without working on the same specific project);
- adapting corporate/organisational capital, *i.e.*, databases, internets, intranets, social events, knowledge workers and knowledge central co-ordinating units;
- building stakeholder (citizens, users, private firms, lobby groups) capital by: i) obtaining the right knowledge on all stakeholders; ii) involving stakeholders in the decision-making process;
- strengthening connections with private firms, research institutes, and universities.

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<th>Box 5.</th>
<th>Knowledge Management in the Danish Ministry of Finance</th>
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<td>Knowledge Management is a strategic issue for the Danish Ministry of Finance. It is indeed at the core of the ministry’s tasks of control and co-ordination and is crucial to setting the future reform agenda, being proactive and providing good cross-sectoral analysis. Good knowledge management will also certainly help recruiting the young and the bright and increase staff turnover.</td>
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<tr>
<td>The Ministry of Finance has put a strong emphasis on management of managers, who are now under five-year contracts and are under permanent performance assessments. Yearly reorganisations encourage managers and staff to rethink strategy and organisation. Efforts have also been made to increase efficiency of vertical communication structures, with quicker top-down and bottom-up information sharing, elimination of divisions with deputy permanent secretaries working on projects and drawing on the basic structures. The Danish Ministry of Finance has not created centralised knowledge management officers in order to mainstream knowledge management in all staff daily work.</td>
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<tr>
<td>Source: Extract from presentation by Adam Wolf, Deputy Permanent Secretary, Danish Ministry of Finance.</td>
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**A more integrated use of classic management tools**

48. Knowledge management has not engendered or created new management tools *per se*. However, it seems that when management decides that better knowledge creation, dissemination and use should become a priority for their organisation, classic management tools are used within a general framework aiming at promoting good knowledge-sharing practices. This holistic approach seems to constitute the value-added of the new knowledge management KM concept. Danish Minister of Finance Pia Gjellerup underlined in her presentation that “knowledge management is too important to be reduced to a technical formality."

49. Some organisations have chosen to use intellectual capital statements. These are new concepts that follow the tradition of annual reports on non-financial indicators. The statements are not easy to make as the essence of knowledge in each organisation cannot be pre-defined. This is a call for some kind of ethno-methodology for the preparation of intellectual capital statements, which would link the relation between the value for users or customers and the firm’s internal capabilities. Intellectual Capital

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Statements should be prepared in line with the specific features of each organisation. There is no one-size-fits-all formula.

**Box 6. Intellectual Capital Statements**

Tools such as intellectual capital statements report on the firm’s knowledge management activities and therefore help not only to identify knowledge resources but also to make them amenable to management.

Based on experiences from several Danish firms’ work to develop intellectual capital statement, they have three elements:

1. A knowledge narrative that explains the strategy for knowledge management based on a statement of how knowledge resources work and allow the firm to produce some kind of value for a user or a customer. It shows the relations between a user’s situation and the firm’s internal capabilities – what it is good at.

2. A set of management challenges that help identify the set of actions to be performed by management to allow the knowledge narrative – or the knowledge management strategy – to be implemented.

3. A set of numbers that are closely linked to and “represent” the activities identified in the management challenge. This set of numbers survey the implementation of the set of management challenges. In this way, it offers a form of stewardship to document the fulfilment of the management challenges stipulated by management. These numbers may be organised in an accounting system.

*Source: Extracts from Presentation by Jan Mouritsen, Full Professor, Copenhagen Business School, Denmark.*

**The knowledge management journey**

50. If knowledge management is not a management technique but a new way of considering and implementing classic management tools to take advantage of the opportunities created by the knowledge-intensive economy, a few conclusions can be drawn on the content and sequence of events necessary to change an organisation into a learning organisation.

51. For the implementation of a good knowledge management strategy, the classic requirements of successful change management need to be respected:

- strong commitment from the top, board-level responsibility for overseeing implementation of knowledge management, raising awareness of mid-level managers (developing incentives for managers to promote knowledge-sharing within their teams);
- preparation of a knowledge management strategy defining the user or customer value of knowledge for the organisation, as well as the needs of the knowledge worker;
- focus implementation on the three fields of knowledge management: i) improving human capital; ii) adapting organisational capital; iii) building stakeholder capital;
- regular assessments of the implementation of the knowledge management strategy.

52. An example of this journey is provided by the Department of the Navy (see Figure 6 below).
Challenges specific to the public sector

**A management modernisation challenge**

53. In a recent report by KPMG Consulting, it is emphasised that the great majority of leading firms are now actively pursuing knowledge management. What is meant by knowledge management differs from one firm to another and many of them still have to undertake measures which go to the heart of an organisation’s culture – such as rewarding knowledge sharing and measuring intellectual capital. However, the attribution of knowledge management costs across departments shows that firms have started to consider that knowledge management is far from being a simple IT issue.

54. While much data exists about this general trend in large private sector organisations, there is little evidence that the same systematic organisational changes are taking place in the public service organisations of most OECD Member countries. It is clear that knowledge management has always been at the core of government tasks – inseparable from strategy, planning, consultation, and implementation. The public sector has traditionally had a unique capacity to bring together the public and private sectors, as well
as different strata of society to share knowledge around policy issues or about service delivery. The question is thus not whether governments have ever managed knowledge or whether they should, but rather how they can improve their practices to better adapt to the new knowledge-intensive economy.

55. As Geoff Mulgan\(^\text{21}\) underlined in his presentation, “the public sector used to lead in knowledge management – mainly through its associated professions and administrative techniques – but it is now at risk of falling behind the best of the private sector, for example companies such as BP, Cisco, Sun. The public sector has been slower to implement leading-edge solutions than in previous waves of advance and slower to develop a shared understanding of the issue across administrators, ministers, agencies and frontline staff.”

56. The knowledge-intensive economy will imply a need for faster adaptation to an accelerated change in the environment of public policies and service delivery, as well as customised public policies and service delivery. Governments will therefore have to be more reactive and deliver services closer to the customer. This will have inevitable consequences on traditional hierarchies, which have been designed in part to keep service delivery and policies uniform. New technologies are only an enabler of stronger network relations, which cannot replace a deeper change in the culture of knowledge-sharing. The emphasis has to be put on valuing more soft, informal and public knowledge, and strengthening connections with the outside: private firms, and research institutes. All these sources of knowledge have traditionally been undervalued in traditional public sector organisations.

### Box 7. A Comparison of Management Strengths and Weaknesses of Private Sector Firms and Educational Organisations

<table>
<thead>
<tr>
<th></th>
<th>Private Sector Firms</th>
<th>Educational organisations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentives to reduce costs</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Language of key outcomes and processes is shared</td>
<td>Common</td>
<td>Rare</td>
</tr>
<tr>
<td>Organisational outcomes are clear and measurable</td>
<td>Common</td>
<td>Rare</td>
</tr>
<tr>
<td>Status structure</td>
<td>Relatively flat</td>
<td>Relatively hierarchical</td>
</tr>
<tr>
<td>Chiefs are managers, not knowledgeable experts</td>
<td>Common</td>
<td>Rare</td>
</tr>
<tr>
<td>Strategic focus and planning</td>
<td>Proactive</td>
<td>Reactive</td>
</tr>
<tr>
<td>Job specification and specialisation</td>
<td>Relatively high</td>
<td>Relatively low</td>
</tr>
<tr>
<td>Open-plan organisational layout</td>
<td>Common</td>
<td>Rare</td>
</tr>
<tr>
<td>Working in teams/projects</td>
<td>Common</td>
<td>Rare</td>
</tr>
<tr>
<td>Career paths are up-or-out/grow-or-go</td>
<td>Variable</td>
<td>Extremely rare</td>
</tr>
<tr>
<td>Extent of tacitness in knowledge and practice</td>
<td>Variable</td>
<td>Usually high</td>
</tr>
<tr>
<td>Incentives to identify and transfer knowledge/best practice</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Incentives for innovation</td>
<td>Very high</td>
<td>Low</td>
</tr>
<tr>
<td>Investment in ICT for internal and external networking</td>
<td>Relatively strong</td>
<td>Relatively weak</td>
</tr>
</tbody>
</table>

*Source:* Extract from presentation by David Hargraeves, Chief Executive, Qualification and Curriculum Authority, United Kingdom.

57. This diagnosis is familiar, however, it needs to be recognised that public sector processes and structures are designed not just to deliver more efficient services, but also to protect deeper constitutional values such as equity and due process, which are all necessary to maintain public confidence in government. For example, in some countries that require passing a competitive examination to enter the civil service or to reach higher levels of responsibility, it will be more difficult to attract potential job-

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\(^\text{21}\) Geoff Mulgan, Head of Unit, Performance and Innovation Unit, Cabinet Office, United Kingdom.
seekers who are primarily motivated by learning opportunities as they will not automatically be provided with better career opportunities later on.

58. Within public services, there are also tremendous differences between sectors and national traditions. Different administrative structures also lead to major differences in knowledge management practices, depending, among other things, on the managerial flexibility given to public managers. In some OECD Member countries, for example, “agencification” (or “quangofication”) has given public managers the opportunity to flatten hierarchies, build teams, recruit, reward and promote under their own rules, and invest in information technology. Some argue that most knowledge creation and management are happening in “off-shore” models of government, i.e. in public bodies which are not under direct and daily detailed political and administrative authority of central ministries.

Anticipating, learning from and communicating on policy outcomes

59. One of the most significant recent trends in public management has been the introduction of output targets and measurements. In some OECD Member countries, this trend is being supplemented by a stronger focus on outcomes. The difference is that output-focused management concentrates on what organisations produce and their efficiency, while outcome-focused management concentrates on what organisations achieve in society and their effectiveness.

60. Anticipating, learning and communicating policy outcomes will be at the core of the transformation of public organisations into learning organisations. Such ex ante and ex post evaluations are more complex to run than in the private sector because:

- Public organisations seek to influence society in complex ways and behaviour is influenced by factors that are not always within the scope of the state.
- Public policies and major policy adjustments need the support of multiple stakeholders (government, Parliament, lobby groups, users, citizens…) who often have differing views of what policies should be.
- As a consequence, the intermediate goals of public policies are not always clear-cut and changing, making unclear what knowledge should be sought.
- The focus on outcomes is still in its infancy. The establishment of the right form and level of evaluation still represents an important challenge. The prudent use of indicators and systematic and institutionalised reflection combined with a more systematic use of the evaluations already undertaken should take public organisations a long way.

The governance of knowledge

An opportunity for improved governance

61. There is little doubt that the increasing importance of knowledge in policy-making and service delivery can help improve governance in the public sector by increasing the knowledge base of public activities as well as transparency. This will have consequences on institutional arrangements and relations between providers of knowledge and decision-makers.

22. This notion was developed in the presentation by Dawn Nicholson-O’Brien, Senior Visiting Fellow on Knowledge Creation and Innovation, Canadian Centre for Management Development, Canada.
The governance challenges of obtaining and publishing Data

62. Data as raw material has the potential of being misused politically, sometimes even with judicial consequences. Publishing data such as the number of crimes, accidents, the level of alcoholism, pollution, etc. can certainly affect government chances of re-election. Because of the weaker link between political action and outcome (e.g. criminality might increase despite an increased number of policemen in the streets), the political consequences of publishing data, and the lack of clear division of responsibilities between executive management and governing bodies, it can be difficult to “get the facts right.” To overcome this problem, many countries have created independent statistics agencies or independent research institutes. Challenges created by the knowledge-intensive economy will require the review of the institutional arrangements for the provision of data and statistics on public services and policies.

The governance of decision-making around new complex issues

63. Governments are increasingly required to make decisions on complex issues which leads to debates about what governments know, or should know. In recent years, for example, political crises in some OECD Member countries have revolved around health or food scandals. Citizens have sometimes called into question the governance of food or health organisations, the relationships between lobby groups and public decision-makers, or the absence of political decision in a context of scientific uncertainty. There is little doubt that public decision-making around new complex issues will increasingly raise questions about the governance of this decision-making. Governments will be increasingly asked to provide the source of their information and to ensure that bodies providing information, and government’s relations with them, follow good governance rules.

Using knowledge management for the right purposes

64. It is also important to note that knowledge management is a powerful tool that can be used for the wrong purposes. There is a serious risk of capture of knowledge by those with the stronger voice to the exclusion of those without a voice (e.g. through the digital divide). This exclusion introduces knowledge biases and undermines principles of public sector equity and efficiency. Finally, there is also a risk that some might use knowledge for political influence or for invading people’s privacy. This calls for a reflection on the possibilities of strengthening institutions and processes around the management of knowledge.

From “learning government” to “learning society”?

65. One of the many definitions scholars have proposed of a learning organisations is “an organisation skilled at creating, acquiring and transferring knowledge and at modifying its behaviour to reflect new knowledge and insights” (Harvard Business Review on Knowledge Management). A learning government is thus a government continuously learning from its successes and failures, capable of constantly reforming its structure, processes and policies to reflect new knowledge and insights.

66. Even when policy results are known and better alternatives identified, action to improve these policies is not always taken. The fact that some governments in OECD Member countries have not reformed their public pension systems to solve the problems posed by the demographic changes is enlightening. Indeed, the consequences of demographic changes on public pensions systems have been known for a long time. This has not prevented some governments from postponing decisions and thus perhaps undermining the success of future reform. In contrast, private firms only have a limited amount of time to transform knowledge into action: this is the private sector’s “time to market”.

22
67. Because of the time lag between action (or inaction) and consequence, a genuine learning
government may only really be possible in a “learning society”, where the electorate over time learns what
policies benefit it and votes accordingly. This calls for a reflection on the modes of communication
between citizens, civil society, and private firms on one side, and civil servants and policy-makers on the
other.

Knowledge as infrastructure: the role of government in promoting a healthy knowledge society

68. For the public sector, the issue of knowledge management should not only be considered as an
internal management and governance challenge for public organisations. Indeed, the public sector has a
unique role to play in promoting the production, use and transfer of knowledge which is in many ways a
crucial public good for the country’s overall competitiveness and which creates new challenges in terms of
equity. First, the public sector should review its role in the provision of knowledge which cannot be
provided for by private firms, e.g. research on rare diseases, basic research, or research on long-term
environmental trends. Second, the content and structure of education provided in public organisations or
within the framework set by the public sector will be of increasing importance. Third, the public sector
may have a specific role to play in the provision of free basic knowledge and the construction of
information superhighways. Finally, public policies should set the basic rules of knowledge production,
transfer and use in order to find the right balance between the necessity of promoting both innovation and
equal access to knowledge – i.e. property rights vs equity.
APPENDIX

1. Types of knowledge required for policy-making and public service delivery

Source: Extracts from Presentation by Geoff Mulgan, Head of Unit, Performance and Innovation Unit, Cabinet Office, UK

1. Strategic knowledge:
   - Types: strategic analysis and information, economic, geopolitical, technological, environmental intelligence
   - Sources: media, private companies, internet, academia
   - Techniques to use: modelling, forecasting, scenarios, risk analysis, horizon scanning.

2. Public concerns and priorities: opinion polls, people’s panels, focus groups, consumer research data, consultations, proactive outreach (to marginalised groups, children, elderly, socially excluded, face-to-face engagement of ministers with the public).

3. Scientific and technical knowledge: drawn from universities, private sector, interpreted through mechanisms such as Chief Scientific adviser and Foresight (joint public-private network), medicine and health through Chief Medical Officer, Food (newly established Food Standards Agency, highlighting the importance of public trust as well as scientific understanding).


5. Liaison with academic community (e.g. UK ESRC network of evidence-based policy established in 2001), drawing on global accumulation of emerging lessons.

6. Emerging knowledge: pilots, pathfinders, tracking positive deviants and replicating, learning from horizontal networks linking operating units and front-line staff, combining lessons in real time and ex post, tracking knowledge from margins which tends to be undervalued, giving practitioners control of research budgets (as with some school research in UK).

7. Performance data: real-time data about performance (schools, hospitals, police, courts, service delivery), making management information transparent (“inside-out government”) to change behaviour and ensure accountability, performance management systems to measure, assess, support, intervene, focus increasingly on outcomes rather than outputs, inputs and activity measures, benchmarking particularly for standard processes.

8. Front-end information: gathering feedback from multiple sources: complaints, letters to ministers, requests for information, usage patterns (e.g. new on-line services, call centres), informal information and gossip.
2. **Necessary conditions for the effective use of knowledge**

*Extracts from Presentation by Geoff Mulgan, Head of Unit, Performance and Innovation Unit, Cabinet Office, UK*

1. Connectivity: linked networks, common standards, common formats, knowledge pools making material available on the intranet.

2. Open approaches to HR: enabling project working, and a more open internal labour market, linking existing staff and former staff in other sectors, regular “refreshers” in core and parallel subjects, knowledge directories with searchable homepages, linking all kinds of achievements.

3. Incentives embedded in appraisal and pay systems.

4. Norms and culture with example set by leadership and flattened hierarchy.

5. Demand and supply: encouraging demand by requiring as precondition for funding and promotion and ensuring quick supply through the internet, mentors, events, discussion groups to all staff.

6. Structures: board level responsibility for overseeing KM, integrated into decision-making (and not left to IT or HR), Centre for Management and Policy Studies in the UK as one approach, combining service-wide training and KM, medium-term aim to end concept of separate task of KM.

7. Networks: establishing learning networks with clear hubs responsible for organising, synthesising and editing.

8. Mobilising external networks and using challenges from outside — e.g. forecasting models, Bank of England monetary policy, publishing early drafts of legislation or policy eliciting feedback (unfinished materials ensuring better products and more buy in).

9. Active organisation of stakeholder communities (including “Change tools” concepts).

10. Social capital: tacit mutual understanding and knowledge as key to government effectiveness, importance of small-scale units within large nations, face-to-face gatherings of communities in each policy field alongside web-based knowledge systems, projects like Common Purpose and joint training to build mutual understanding across professional boundaries.
3. Nordea: Focusing on the relation between employees and organisation, competence and technology

*Extracts from Presentation by Carsten Dalsaargd, Executive Vice-President CIO Tryg-Baltica, Denmark and Peter Forsbald, Executive Vice-President and Head of Group HR, Nordea Sweden*

- Employees must be trained in knowledge-sharing.
- Employees must feel they are evaluated on the basis of their contribution to knowledge.
- Knowledge managers secure the knowledge structures and word as “facilitators”.
- The knowledge strategy will be worked out locally in “communities of practices” — groups with a common commercial target and shared needs -- or competence centres.
- The learning organisation implies well structured curriculum regarding education, educational budgets of an unprecedented size, hierarchic but with a flat decision-making structure giving an increased span of control.

Personnel system: all jobs, matching qualifications and competence gaps are analysed and available to managers:

- 1 500 qualifications have been installed in the personnel system.
- Competence requirements are sub-divided into business competence (knowledge an employee must have to be able to solve the problem), professional competence (financial product, IT system and methods an employee needs to be able to use when solving the work tasks in the job/position), personal competence (rules of conduct, personal values, etc.).
- Competence gaps analyses are made.

Technology

- Choice of technology must support both a central system for knowledge-sharing and local initiatives.
- Decentralisation through centralisation with fixed standards, connected architectures and description of roles, responsibilities and procedures.
4. Intellectual capital statement within the State

A Guideline published by the Danish Ministry of Finance (March 2000)

The guideline has been built up as a model for how an organisation may incorporate knowledge management and intellectual capital statements. These guidelines define knowledge management not as a technical tool but as a strategic paradigm. They include four stages:

1. setting KM objectives and strategy;
2. implementation of KM strategy;
3. selection and measuring of KM indicators;
4. evaluation of KM in the intellectual capital statement.

It addresses three challenges:

1. how to develop new knowledge;
2. how to reuse existing knowledge;
3. how to ensure that available knowledge is actually being used.

The report focuses on three management areas relevant to knowledge management:

1. Human resources: the elements that can enhance an individual’s qualifications are the same that influence whether an employee is motivated and whether his/her talents are unfolded.
2. Systems and processes: How systems (archive systems, databases, intranets) and processes (work processes, procedures, and routine) contribute to the employees’ ability to create knowledge.
3. Environment: This includes all connections to users and other stakeholders, an area of crucial importance to deliver and provide knowledge that the environment anticipates.
5. Under what conditions will knowledge management (especially Knowledge Creation and Transfer) develop in public educational organisations?

Extracts from Presentation by David Hargraeves, Chief Executive, Qualification and Curriculum Authority, United Kingdom

- When outcome measures become more explicit.
- When government offers incentives and infrastructures to support knowledge creation and transfer (e.g. Beacon schools, ICT, research consortia, best practice scholarship).
- When educational organisations become less hierarchical, with collegial structures and cultures (e.g. mentoring/coaching and schools-based ITT).
- When government creates partnerships between business and schools (e.g. education action zones).
- When an education is in serious crisis and a new leader can legitimately change the organisation’s structures and cultures to support knowledge management (e.g. failing schools ‘in special measures’).
- When there is more project work in schools.

…and as hypotheses:

- When educational organisations are rich in social capital.
- When there are more incentives for educational innovation — in curriculum, assessment, pedagogy and organisation, so that educational organisations become more like entrepreneurial and innovative organisations.
- When innovation is project-based and not individual-based.
- When there are more opportunities for job rotation.
- When there are incentives to accept leverage principles.