Knowledge Management in the Public Sector: UK Case Study Perspectives

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1 Introduction

History shows that most management philosophies were first practiced in the large company (McAdam and Reid 2000) and once they gained acceptance they become adopted in the other sectors, including government. Programs such as those associated with New Public Management (NPM) suggest that public organisations should import managerial processes from the private sector, emulating their successful techniques. Examples include enterprise resource planning (ERM), business process re-engineering (BPR), total quality management (TQM) and Knowledge Management (KM). KM has for sometime been at the core of government tasks, inseparable from strategy, planning, consultation and implementation (OECD 2001). Governments are now realising the importance of making KM explicit to policy-making and service delivery to the public, with some government departments beginning to put KM high on their agenda, however evidence drawn from the existing literature suggests that public sector is still falling behind in these practices (Cong and Pandya 2003). KM implementation is challenging, strategies and plans for implementing KM must be carefully planned in advance to succeed in the attempt and effort; challenges will not be met without adjustment. There are concrete issues for government to consider and address, such as raising awareness, understanding the KM concept, managing knowledge processes, choosing initiatives that are fit for purpose, gaining and adding value to public services.

The essence of managing knowledge is concerned with deciding with whom to share, what is to be shared, how it is to be shared, and ultimately sharing and using

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it. Managing knowledge produces value when shared knowledge is used and reused. Consistent value occurs when there is an atmosphere of trust and motivation for people to share and use knowledge, when there are systematic processes to find and create knowledge, and, when needed, there is technology to store and make knowledge relatively simple to find and share (CIO Council 2001). KM involves systematic approaches to find, understand, and use knowledge to achieve organisational objectives. Managing knowledge creates value by reducing the time and expense of trial and error or the reinvention of the wheel (CIO Council 2001).

The management of knowledge is of increasing importance for governments in dealing with the challenges created by the knowledge economy. These challenges are addressed in the following aspects (OECD 2003):

1. Knowledge has become a critical determinant of competitiveness for the public sector. Service delivery and policy making are the main tasks for government. In a knowledge economy, governments are increasingly facing competition in these areas at both international level and national level. In the public sector, goods and capital is not as important as in the private sector, but knowledge is. In this setting, knowledge is both an important element of competition between organisations/departments and is a central resource of the government. Effective functioning of government rests on effective acquisition and dissemination of knowledge.
2. Private firms produce 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 knowledge. As customers demand and receive more customisation from knowledge-oriented private firms, they would also expect similar benefits from the public sector.
3. Retirement of civil servants and frequent transfer of knowledge workers across government departments also create new challenges for the retention of knowledge and preservation of institutional memory and the training of new staff. There is also competition for talent with the ability to share knowledge. Succession planning is key within the public sector for knowledge capture and dissemination.

KM is based on the idea that an organisation's most valuable resource is the knowledge of its people, the essence of KM is 'getting the right information to the right people at the right time' (Davenport and Prusak 1998). Therefore KM has potential to strengthen government effectiveness and competitiveness in the current changing environment. The aim of this chapter is to present findings from three public sector cases exploring KM implementation. Case organisations were asked to comment on items that may support or hinder KM adoption, these are presented in Table 1.

Each organisation was contacted via a gatekeeper and invited to select up to six key personnel involved in KM implementation. Interviews were arranged with each of the participants, each interview lasted between 1 and 2 hours. Interview transcripts

Table 1 Factors for KM implementation

Theme	Factors
Macro-environment	External factors
Organisational climate	Teams
	Adopting new approaches
	Collaboration
	Employee welfare
	Informal practice
	Environment
Technical climate	Infrastructure
	Communication
	Repositories
	Connectivity
	Access
Technology	Knowledge roles
	Training
	Training location
Technology tools	Intelligent tools
	Support tools
	Web-based tools
Information	Information flow
	Information systems
	Information capture
People	Employee emancipation
	Working practices
	Innovation
	Reward

were taped, typed and analysed using Nvivo, qualitative comments are selected to support key findings, these reinforce current KM literature.

2 The MeCTIP Knowledge Management Model

Holsapple and Joshi (1999a) made a comparative analysis of key KM frameworks available in the literature and argued that none of these researchers appeared to subsume all of the others as each of them addressed certain KM elements. The MeCTIP Knowledge Management model, (the MeCTIP model) created by Moffett et al. (2002), attempts to overcome this shortfall by considering a broad range of aspects which contribute to KM implementation, these are summarised in Table 2.

Moffett et al. (2002, 2003) grouped these into five key categories that can either support or hinder KM implementation, forming the basis of the MeCTIP model (shown in Fig. 1). MeCTIP is an acronym of model components, namely Macro-environment, Culture, Technology, Information and People.

All organisations (irrelevant of sector or status) must be aware of external, macro-environmental factors that will have an impact on organisational climate/

Table 2 Key contributors to KM

Title	Theme	Content	References
Macro-environment	Economic, technical and social agents of change	Includes globalisation and the recession, emergence of new technology such as the Internet, market orientations	Johnston (2009)
			Obeng and Crainer (1996)
			Ward (1994)
Internal organisational development	Culture and organisation climate	Includes organisational structure, strategy, goals, culture, employee emancipation, change management and business improvement initiatives	Vorakulpipat and Rezgui (2008)
			Moffett et al. (2003)
			Davenport and Prusak (1998)
			Lank (1997)
Overall management approach	Link between strategy and operations	Includes business improvement initiatives (TQM, the Learning Organisation, Business Process Re-engineering), continuous improvement, leadership and facilitation, knowledge-orientated direction	Fernandez et al. (2006)
			Moffett et al. (2003)
			Normann (2001)
			Davenport and Prusak (1998)
			Powell (1995)
Customer focus	Interface between internal operations and customer/client	Includes satisfaction, loyalty, customer relationship management	Johnston (2009)
			Johnston and Clark (2001)
			Liljander and Strandvik (1997)
Quality focus	TQM, Business Process Re-engineering, production improvement	Includes production and manufacturing processes, service delivery, outsourcing, partnerships and alliances, new product design, research and development	Fernandez et al. (2006)
			Moffett et al. (2003)
			Kurland (1992)
			Crosby (1979)

Table 2 (continued)

Title	Theme	Content	References
Knowledge focus	KM concepts, tools and applications, implementation, knowledge drivers of change	Includes tacit and explicit knowledge, knowledge roles, knowledge-based systems, information management, employee emancipation	Borges Tiago et al. (2007)
			Dunford (2000)
			Davenport and Prusak (1998)
			Quintas et al. (1997)
Technical focus	Internal technical climate, technical contributors to change	Includes technological infrastructure, response to technical change, system standardisation and compatibility, technical usability, technological tools and software applications	Jennex (2005)
			Davenport and Prusak (1998)
			Shenk (1997)
Informational contributors	Creating, storing, disseminating and using information	Includes information fatique, infofamine, infoglut, knowledge silos and power-bases and information auditing	Ajmal and Koskinen (2008)
			Borghoff and Pareschi (1999)
			Offsey (1997)
Personal contributors	Human Resource Management, people and working practices	Includes knowledge roles and skills, motivation and self-reflection, empowerment, learning networks and communities of practice, dialogue, collaboration and innovation	Sarros et al. (2008)
			Lustri et al. (2007)
			Scarborough et al. (1999)
			Zuboff (1998)
			Peters (1992)

culture and technical climate/infrastructure, both of which further impinge on technical, informational and personal processes internally. A successful knowledge-orientated organisation is one which has strong information practices and technical resources to support employees in decision making processes. The MeCTIP model is a conceptual model to aid organisations (public and private) visualise KM implementation. Relationships between each model component are proposed, for example P1 claims that factors in the macro-environment (such as the internet) will have an impact on organisation climate (the way people work) while P2 extends this relationship to technical climate (technological infrastructure). Statistical analysis of the strength of proposition relationships is currently underway, however for the purpose of the study in hand the MeCTIP model was used as a visual to introduce interviewees to items relevant to KM implementation.
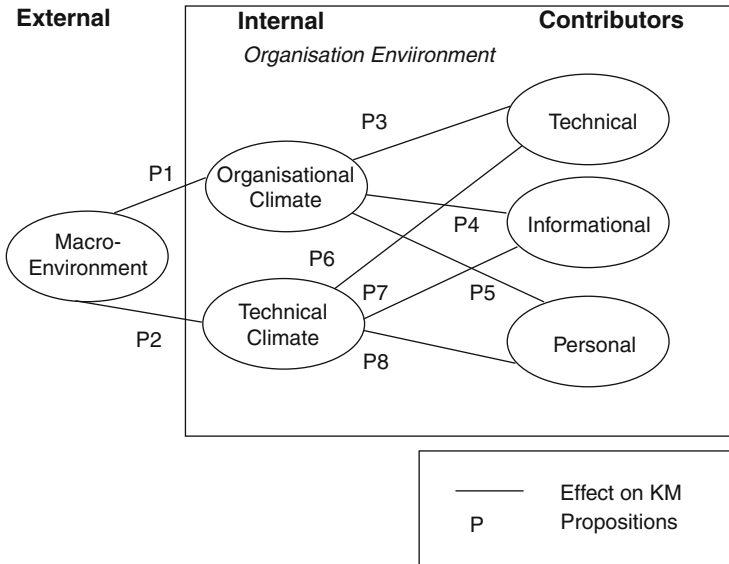
Fig. 1 The MeCTIP model

3   Research Methodology

The MeCTIP model informed the development of an on-line survey based measurement instrument, known as the 'Benchmarking KM' tool, available at http://www.business.ulster.ac.uk/questionnaires/moffett/ (last accessed 28/12/2013). The survey is similar to KPMG's Knowledge Management Framework and Microsoft's IT Adviser for Knowledge Management (Kruger and Snyman 2005). Quantitative research was undertaken with 588 UK organisations from both public and private sector and used for organisation size comparison (Moffett et al. 2011) and organisation sector comparison (Moffett and McAdam 2009), details of the statistical analysis process and results can be obtained from Moffett and McAdam (2009), Moffett and Hinds (2010).

For each respondent organisation, a total score for KM was derived based on cultural, technological and informational scores. Organisations were classified as either poor (three low scores, or two low and one medium score), developing (two medium and one low score, or three medium) or potential (one or more high score in any category). The process of categorisation is similar to that adopted for KM maturity knowledge management maturity statements formulated by authors such as Boon (1990), Kruger and Snyman (2005), Ndlela and Du Toit (2001) and Zack (1999). When grouped according to these classifications 27 % of respondent organisations are deemed poor at KM, 15 % have developed some KM initiatives, though the approaches were ad-hoc and not part of a strategic KM plan (more by
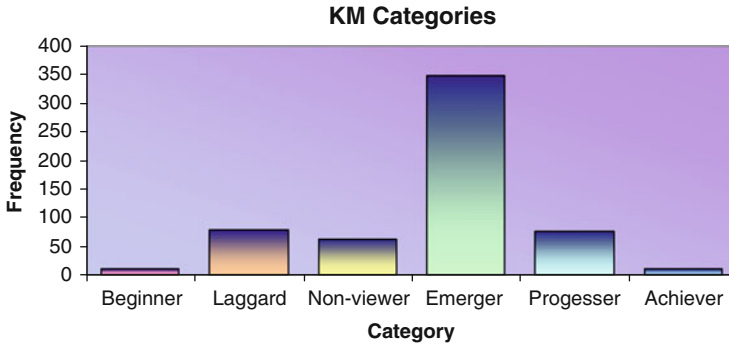
Fig. 2 KM categories

chance than with vision) and 57 % exhibited KM potential, where at least one category scored highly showing success at KM activity.

Taking this a stage further participant organisations were re-classified based on KM categories. Depending on the activity undertaken, strategic and operational vision, and success to date organisations were categorised as beginners, laggards, non-viewers, emergers, progressors and achievers. Figure 2 shows the results of this categorisation, this figure relates to all 588 empirical respondents from both public and private sectors.

The results of the KM categories indicate that:

- Two percent of respondents are '**beginners**' with little KM implementation
- Fourteen percent are deemed to be '**laggards**', they have low focus on at least two of the three elements necessary (technology, information and people) for KM implementation.
- Eleven percent have a key driver for KM implementation, receiving a high score in one element, but are not seeing the bigger picture '**non-viewers**' which requires focus on all three elements
- Fifty-nine percent scored medium on either two or three of the elements showing that some form of KM implementation was in motion '**emergers**', this activity needs to be nurtured to move towards progresser/achiever status
- Thirteen percent are organisations with high KM activity in two of the elements '**progressors**'. While these organisations will see benefit to KM implementation the third element in which they are lacking needs attention.
- Two percent are deemed '**achievers**' received a high factor score in all three elements. These organisations should be exemplars of KM implementation and practice.

Statistical analysis to compare private sector and public sector organisation is currently underway, however for the purpose of this chapter KM categorisation was used to aid selection of case organisations.

4 KM in Public Sector Cases

Further support for quantitative findings was derived from qualitative cases. As part of the quantitative data collection organisations were asked to express an interest in participating in further research identifying a contact person as gatekeeper. From the 588 organisations employed in the empirical study 53 % expressed an interest in further research. A number of organisations, from both public and private sector, were selected for further investigation. One public sector organisation based at each stage of the KM category continuum was selected for further qualitative investigation, the three most advanced in KM implementation are reported in this chapter. Contact was made with the organisation gatekeeper (person who supplied contact details on the survey response indicating willingness to participate in further research) to arrange visits, he/she was asked to nominate up to six people in the organisation most knowledgeable in KM. Each participant was interviewed face-to-face in line with the in-depth approach recommended by Yeo et al. (2014) and interviews typically lasted between 1 and 2 hours with each being recorded following permission from the interviewee. Within one week of the interviews, taped content was transcribed and analysed via NVivo to identify key content. Qualitative comments were extracted to support key findings. Organisation documentation, such as IT and HR policies were also reviewed to support interview findings. The remainder of this chapter focuses on three cases within the public sector, as shown in Table 3.

In keeping with the theme of this chapter, components of the MeCTIP model will now be discussed from a qualitative viewpoint. Interviewees were prompted to focus their responses based on MeCTIP model components, namely macro-environment, organisation climate, technical climate, technology, information and people processes.

Case 1: Organisation E, Higher Education
Organisation A is a higher education (HE) provider based in Southern England. Originally a Further Education College, they entered the HE sector in 2001. Company A has approximately 350 staff, 250 of whom are core staff. Each year they recruit approximately 950 students, which is full capacity, from on average of 4,000 applicants. Students are recruited from all over the UK, plus approximately 10 % are international (non-EU). There is an acceptance amongst potential students that there is competition for places, the University has a good reputation which they have worked hard to build and promote.

Four interviews were conducted within this organisation, as shown below:

Overview of interviewees coding	Role
A1	Director of Finance, MIS, Enterprise and Knowledge Transfer
A2	Human Resources and Employee Relations Manager
A3	IT Manager
A4	Director of Academic Services

Table 3 Case study participants

Case no	Sector	KM implementation stage	No of interviewees
1 – A	Higher education	Emerger	4 – coded A1 to A4
2 – B	Public Health Department	Progressor	5 – coded B1 to B5
3 – C	Waste management	Progressor	6 – coded C1 to C6

Macro-environment

As Company A are focused on building their reputation, they are very aware of external factors, such as current students, alumni and potential markets. A lot of effort goes into marketing their courses, promoting their successes and ensuring all publicity is good. They are aware of competition and the offerings of similar institutions in the area. Part of this promotional activity surrounds their location; it is a beautiful campus, with great office space, built to take advantage of natural light (utilising features such as glass ceilings) with landscaped gardens. Company A operates on a healthy turnover, with each department granted a budget for internal activity. A3 outlines that the current credit crunch has not had an impact on the organisation. The environment greatly contributes to the culture of the organisation.

Organisation Climate

In an opening comment about Organisation Climate A4 declares *'We're blessed!'*. Senior management have a close working relationship, as A4 outlines *'We have some extremely competent and nice, personable senior managers, who I will happily chat to for 10 minutes if I bump into them in the corridor, rather than thinking we'll just talk about finance things and then run along. There is no sense here of 'who is the first among equals?'* All in the senior management team have a role to play in terms of leading and managing their own areas, and in jointly thinking about the strategy and the good of Organisation A as a whole, *'It's also true that we do share a vision, and that's quite important. I think there is also a sense of the institution as a whole becoming more mature, and having confidence in itself'*. Interviewee A3 promotes the role of a champion in gaining shared vision, *'The new Principal is the force, in terms of the visionary. Whilst all the senior managers feed into it, the Principal has been very clear, almost to the point of 'if we don't do this, we are gone'. I don't know if you can sense it, but the sense of community here is so nice. And when there was that key, single focus driver (recent audit), everybody was doing stuff towards it; there wasn't a member of staff going 'no, my job is nine to five'. Everybody was focused'*.

As reporting lines are short, senior management know all of their staff, as A3 declares, *'Here the Chief Exec knows my name. The relationships are just nice'* and understand the roles they play. As A4 states, *'we are quite good at acknowledging that everyone has a role to play. Of course nobody is indispensable, everyone can be replaced. But one person can't replace everyone. I have never assumed I can do everything, so I don't know if people treat me differently as a result'*. Channels of communication within the organisation are open. Although staff are encouraged in

the first instance to speak to their line manager, they can approach senior management if necessary. A4 outlines that this open door policy actually reduces communication *'They used to come to me a lot more than they do now; I think now that they appreciate that it is there, but don't feel a need. You only use it when you need to. I hope ... I believe that people think that I'll always make time for somebody'*.

One of the challenges Company A has faced is getting all staff to recognise the importance of documentation for recording events and auditing purposes. Reflecting on how policies and procedures currently stand, A4 outlines, *'they're not bad; they are effective; they take us where we need to go'*. However he also states that *'Fresh eyes could just completely throw some of the rubbish in there out'*.

Interviewee A4 tells the story of how he gained trust from staff members on joining Company A, changing a blame culture to an open one, *'When I started I simply asked questions. I was able to ask what the risks were what are the great strengths, what are the managers like in your view? I also asked the managers straight away 'how do you feel about your area, and what are its biggest strengths, and what are its biggest risks?' I wanted to know from everybody what do I need to do – for you, what are the most important things I can do, and what are the biggest risks in your area, what is going to prevent you being successful over the next three to five years? Luckily we have a very well behaved organisation in the first instance; I was blessed with managers who believed the best of me and were ready to run with it and to give me the benefit of the doubt. I suppose I was trying to build confidence, but to a certain extent I was trying to find out what was going on at the same time, I think also, because it is a relatively small organisation, it is relatively easy to work out who the key people are, although I was, in one instance, misled. Also, of course, other senior managers have views. Whilst they weren't always right in every respect, you get to know fairly quickly who you rate in other teams'*. Within the organisation there is a team orientated culture. Leaders have flexibility to organise teams as they see fit. As the environment is open planned, with only Directors having their own offices, team members tend to integrate well. A3 outlines *'There is a camaraderie'*.

However, people do not tend to work across functional areas, resulting in knowledge silos, as A3 suggests, *'One of the things we do lack is shared resources, there are pockets of expertise. Because someone has worked on something as a project they have an awareness, but don't necessarily have the depth'*. However, A3 does go on to outline that team spirit is strong within groups, stating *'If a project fails, outside of this room we will look bad. And what we will protect is the honour of [name of department]. Everybody out there has gone through project management training as well, so we all understand that they're a piece of the jigsaw, and if they drop the ball they've destroyed it. I think that helps in terms of the communication. They know we are on the critical path on one project, or we have produced the project board that shows what is going on'*. One barrier to motivating staff is the lack of reward mechanisms, a point outlined by A1, *'When I was in private industry you could reward someone who was working better, but here it is very restrictive – you have increments, and someone might deserve two increments, but they can only*

get one'. A3 also comments on the lack of rewards, deeming academia to be a vocation rather than a career.

The strong Organisation Climate in Company A tends to be key for recruitment and retention of both students and staff alike.

Technology

The IT department have great alignment with the integration of information, as A3 outlines, *'while we look after the servers and all the rest, and MIS want to take information from those, there is great synergy of trying to bring together what they wish to achieve and what we can provide, and in some respects the future now is very much all about system integration and devolving the workload'*. One of the prerequisites at the tender stage for system design was to ensure that the reporting tool employed could *'talk, integrate, grab bits of data to give management the report that they wanted, not caring where the information came from'*.

A3 outlines some of the challenges IT is facing in terms of system integration while meeting the demands of students and industry, *'In some respects, the cultural issue is the one that is hitting academics. The thing that we struggle with here is the academic development of IT. Students bring in their own laptops. We have moved the funding that was buying those desktop computers in the studio to the wireless, making that environment much more secure through intrusion detection systems and security measures, etc. What we are finding now is that students don't want the low end; they just want the high end kit. So our investment now is in much more specialised equipment, that's the movement. That is something I am struggling with. In business, the way the infrastructure is going is mapped out quite nicely. On the academic side, it is getting harder to build in that academic response. They kind of know what they want to do, but don't know quite how to do it. Then they meet someone from another organisation, and want to buy what they have. It's very spontaneous'*. One of the pressures facing technology is being able to provide resources that are leading edge in industry and able to meet the demands/expectations of the student population.

All staff has access to the Internet, intranet and emails. When a user logs on to any IT system the default page is the organisation's intranet, displaying any recent, relevant information: *'swine flu has hit, go home, whatever – will be presented to you'*. All policies and procedures are available via the intranet, presented in alphabetical order. Electronic versions of documents such as minutes of meetings are also logged there. Within the HR section recruitment vacancies are also presented, though internal vacancies are password protected. Although Organisation A is relatively small, staff depend on email for communication; email is accessed from the intranet, which provides the opportunity for connection from any location. Internet usage is not policed, though there are *'particular sites that people shouldn't go to; we would clamp down on that. We don't purposely police people browsing the internet, but it's a manager's decision if they feel that people are not getting their work done. As long as the work gets done, it shouldn't be a problem' (A4)*. Enabling students to use Internet resources is also encouraged, *'We are encouraging each of our courses to set up a less formal website that is*

much more about student work, and let it have a more student feel, have their own blogs, alumni talking, etc. Students self-manage their webspace, it's kind of 'see what the students say'. We're very cautious of Twitter and Facebook, over what is being said on there. We monitor it as we have had one naughty experience' (A1).

However, keeping momentum going is taxing. As A1 declares, *'There seems to be an initial excitement, and then organisations become complacent'* while A3 states, *'What I like here is that we don't talk about IT. It really annoys my colleagues, but I feel that IT shouldn't even be mentioned; it should just work. It's like your car: it's supposed to start every morning and take you somewhere. You don't thank your car. It's just a given. But when it breaks you realise how much you depend on it. For me, that is IT'.*

Summarising the IT challenge A3 states, *'I am interested in terms of the integration story. I think that is the key thing in our organisation at the moment. This is our utopia, to have all the systems integrated; information is the key'.*

Information

A4 outlines the information strategy, *'we wrote ours three or four years ago – we took a year writing it, going backwards and forwards, working out what we wanted to do – and it's a real, living document and strategy. And we are doing what it says we are going to do. We have identified who the lead owner is for pieces of information. What that means is, the person who owns it knows they shouldn't throw it away, and everybody else knows they can. For me, that is really important. One of the issues I have, especially in a smaller institution, you feel you have to remember everything all the time. And you can't. If I kept every piece of paper that came into my office, I'd need five times the number of files I have. What is important to me is I know what I need to keep, and what someone else knows and so I don't have to worry about any more. So I just need to know about the top level stuff, so we can integrate things better, so we don't operate in silos but in a genuinely joined-up way, but no one individual needs to know all the bits of the joining up'.*

To kick start the information strategy development, the senior team undertook an information audit and reviewed information strategies from other companies. Cherry picking the best bits from these, and redrafting to suit their organisation in an iterative process, led to the formation of a comprehensive document which included a retention schedule for documentation: what to keep, who keeps it, what format do they keep it in. Simultaneously, there is a destruction schedule. This proved to be invaluable as immediately the organisation was able to *'truck away skip-loads of stuff, especially where students were concerned. We had sick notes from 1953! We are gradually hoping to digitise. We are not terribly far along on this yet. What we are working on at the minute is making sure that every new document is available electronically. From now on, we will endeavour as far as possible to keep electronic records of everything'.*

Company A have adopted a pull strategy for information flow, documentation is available electronically, people are made aware of its existence, and it is up to individuals to locate and read it. A4 outlines *'I'm more worried about knowledge overload, almost, than underload. You get so much rubbish* via *email. Everyone's*

busy trying to do their jobs. Actually, you want people just to focus on what they need to know, and make them take ownership of what they need to know, and make that easy for them. Other stuff is useful background. You are more likely to be effective if you can keep people knowing what they need to know, and what is related to that'.

Within Organisation A the most common used term is management information systems – MIS. In terms of data accuracy for information management Organisation A claims to have *'99 % accuracy, without a shadow of doubt. People care about what gets inputted. Because our systems are new, the legacy has been cleaned so many times before it gets into the system'*. Future aspirations for information processes is stated by A3, *'Certainly our intention is self-service, business efficiencies, and, if you like, to make the back end as efficient as possible, as money saving as possible, and therefore allowing our funds to do what we can academically. I am under no illusions from business support that that is the goal, to spend our money as strategically as possible, and to buy high end resources that our students need, resources that aid information flow and management'*.

People

Organisation A operate standard working practices, such as statutory sickness and maternity policies. The majority of staff on the business/support side work set hours, 8.30 to 5.00, finishing at 4.30 on Friday. Flexi-time is at a manager's discretion. Family commitments are normally accommodated following a business case application for concessions. On the business side, flexible working practices such as job sharing or reduced hours can be accommodated easier than on the academic side. Academics tend to work long hours during term time with more flexibility at other times of the year. Organisation A promote work-life balance and are supportive to individual circumstances.

Organisation A recruit graduates and find the pool of applicants to be strong. Staff turnover is at or below average. Turnover is viewed as a positive occurrence as it brings fresh ideas into the organisation. People who leave do so because they are ambitious or their family circumstances have changed. When probed on the reasons people would choose to work for Company A, A4 commented, *'I am sure there is a certain lifestyle attached to living here that people don't want to give up. I also think there is an incredible commitment to the students. You see the hours they work. I think that's a major part of it. They really love it; they really believe in what they do. This is a recognised place of excellence. People are really committed to this place. I knew as soon as I had my interview that I really wanted to work here. I think what I like is that you can be yourself here. Coming from my previous post, where I had to be a corporate robot, and couldn't show any emotion . . . Here you are allowed to have a bad day, to be yourself. Not to the point of being unprofessional, but I think that is what makes it. And it is quite friendly and respectful. Having that previous experience really makes me appreciate that it is a good place to work'* while A2 declares, *'If you like a challenge this has been the place to be. It's been very interesting and quite fulfilling. And frustrating at times!'*

Organisation A has a general induction for all new staff in the form of a standard monthly induction meeting. On the first day they would be met by their manager, they would be assigned a mentor, and a buddy. The mentor will be from the academic side of things, in another area; the buddy will just be to help them find their way around, make sure they are okay. Each person also has a supervisor as their direct point of contact. There is an induction profile that all managers get, that they have to go through with their member of staff. It is recommended they do this on the first day, this on the first week, and then they have to send those back by a certain date to HR who record the activities have taken place. There is a 12 week review with the member of staff, and a review at 26 weeks, because there is a 6 month probation period.

Socialising is encouraged in the organisation. A1 provides one example, *'Last night, something the principal likes to do, we had a beach party. The weather was terrible, but there was fish and chips laid on, and Pimms when you arrived, and there were two buses laid on to help people come to it. It is becoming more difficult to do things like that as we get bigger. That village feel is being lost to some extent, as you can't possibly know everybody as we get bigger'*. There is also a refectory on-site which is open to staff and students, but there is not a separate staff room. There are benches around the gardens, so in the summer people will sit there. A new coffee bar and seating area are currently under construction.

Location-based working is encouraged and staff are accommodated to work from home. Laptops are available for people to take home although most people come in to the office, in general it depends on the job. People are able to check emails etc. from home but the culture of the organisation discourages this. As A1 states *'nothing here is life or death. If anything really needed to be done, I would get it done. But most things can wait till Monday'* while A3 highlights *'There was a time that I'd go on holiday and take the phone and the Blackberry, and my wife would kill me. Now I just go. We're very fortunate in this kind of escalation process of triage, if staff are unavailable the department still runs. They know the nuts and bolts; we have a help desk that will tackle day to day things, and escalate them'*. A2 also comments on working from home opportunities, *'I check emails at home, but only to a point. I am quite good at working out what I need to do to get ahead of myself, or to help the managers get ahead of themselves, so that we are prepared for the next stage. If I feel that, to make my day better tomorrow or to make my week better next week, I should check my emails or type up some notes or do something in the evening, then I will do it. Generally, I can easily walk out and not think about work until the next day. Sometimes you make that personal decision to say, 'this is my time to challenge myself, to show what I can do, to not sit around and say I haven't got time to do it'. For me, that has been my personal challenge.'*

The research team asked how staff would promote a good idea within the organisation. A1 outlined that *'With the new pay scale, we have introduced an 'exceptionality' award, particularly if people can't go any higher in their increments. They don't have to be at the highest level, but it helps. After we make the round of staff appraisals, we then make a case for people that we consider have performed exceptionally. So if your brilliant idea saved us time we might put you*

forward for an award at the panel that the principal chairs. That's a one-off payment, unless you get it twice in a row, in which case it gets consolidated into your salary. But that can cause problems too, where people see something as a team effort, but only one person gets recognised; or you are encouraging individual performance. I don't think people work harder or smarter because of the award, I think they do it because that is the way they are, or they are going through a phase where they want to advance themselves. We see this as an opportunity to recognise this. And it is published when people get awards, so they have to be prepared to be in the public eye, to recognise the pat on the back. There is also the opportunity to pass an idea up the hierarchy via *your team lead'*.

Internal and external networking are encouraged by Organisation A. As A2 states, *'Because of the sounding board aspect of the job, I have had to rely on internal networks to get a good grasp of the role and how things work around here, currently and historically'*. A4 declares that Organisation A is very focused on external networks, *'External networking, absolutely, we couldn't manage without that. Perhaps it was one of my criticisms of this organisation when I joined, that not enough eyes were focused externally. If you don't get outside, you'll never develop and learn'*.

Tacit knowledge, key within Organisation A, is aided by personal relationships as mentioned by A2, *'I think if I left tomorrow, my job is very much around communication and relationship building, that sort of thing. If someone wants to find out about a policy, we have policies; if someone wants to find out about a case I have made case notes. On a very basic knowledge level, that is there; but you lose those relationships and that trust that is built up, there is a level of confidence that you build up over the years, and that would suddenly vanish. The new post holder would have to start all over again. We try really hard here with relationship building. When anyone comes in we are really friendly'*. A1 comments on capturing tacit knowledge, *'If someone key left we would survive, but it would be awkward. For example, we have someone in Registry who does student returns. He has been there forever, and knows everything about fee funding. If he were to go we would be really stuck. He is planning to retire in about three years, so we really need to get everything out of him before he goes. Obviously he has a font of knowledge ... People working with him in the past might not have understood all that he was doing; now they are quizzing him to learn from him. He is open enough to that, and as it gets closer to time for him to retire he might be more inclined to share his knowledge. He does understand why it is so important to us to try and do a 'brain dump' before he leaves. But we are never going to replace him with someone who has worked for us for 35 years, who knows all the history, all the recent precedent ... we just can't. And that's fine. We will replace him with someone who knows the system and has the ability to learn'*. He goes on to outline that process knowledge is also critical knowledge that must be captured in some form, *'It is partly about encouraging the documentation of what he does'*.

Opportunity for progression within Company A can be limited, a point highlighted by A2, *'You are sitting waiting for the person above you to leave, really, or for the restructure. That's just another opportunity. Sometimes, roles are*

re-evaluated. Roles get bigger, more responsible'. However, A3 mentions that lack of progression appeals to some people, *'In some respects, you have just described someone next door perfectly: don't want responsibility; I like what I'm doing; I've been given jobs and I like doing them; I'm a bit of a geek and I don't really like people. It's all of those . . . there are strengths and weaknesses'*.

In terms of training Organisation A offers opportunities for people to develop their careers with professional development, taking advantage of both internal and external training. Training opportunities for staff are identified through the appraisal system. There is also a provision if people find things throughout the year that they might want to go to. Not many requests for training are turned down. A2 states the organisation *'makes quite a big thing about training, even before people come here. When they come here we talk about how good our staff development is, because there is that recognition that there are not a huge amount of career development opportunities, so that is seen as a bit of a carrot'*. Secondments are also encouraged for staff development.

Company A does not have any formal accreditation, such as EFQM or Investors in People (IIP), to promote their undertakings as they would rather spend the money on investing in people rather than getting the kite-mark. There may come a point in the future where that will be a valuable thing to do. A4 has the view *'Kite-marks can be very useful, in terms of showing off to the outside world, encouraging applicants who are interested in that, but you can be driven by the kite-mark rather than what's the right thing to do. I have no problem with them, but I'm not signed up to them being the be-all and end-all'*.

Summarising people orientated activity within Organisation A, A4 outlines the reasons why he joined the organisation and has found it so rewarding, *'I had always found it the friendliest, the nicest atmosphere, it has a pretty campus: it was a really nice environment and I was pleased to come here. This is exactly the kind of job that I thought I would do some day. It's about making a difference, and since I have worked out what my career trajectory was, I thought that what I want to do is use the skills I have to make the most difference that I can; so I want to keep being promoted or to do new things, to the point where I feel that that is as much difference as I can make. So if I do have the opportunity to do a bigger job with more influence, then that's really nice, because I can influence more things for what I think is the good. This job offered that. What I didn't realise at the time, until I was here and in post, was that it offers much more than what it says on the tin, because apart from the fact that you can write an information strategy or chair the equalities committee, etc., you manage to get involved in everything. Because we are small, and because of the role I have, you can get involved in whatever I want, within reason. A lot of the time you have the chance genuinely to shape how things go. I hadn't realised how significant that would be. I know I would find it very difficult now to look at a job that closed down some of those opportunities. You get used to the fact that you genuinely have a voice that cuts across almost whatever you want it to – not about academic delivery, but in terms of how the institution is operating, there is a chance for all of us to become involved'*.

Tapping into the 'knowing', then capturing and sharing this knowledge, is driving Organisation A towards a bright future where people, technology and information are interlinked.

Case 2: Organisation B, Public Health Department

Organisation B was established in Northern Ireland on 1 April 2005, merging a role that was formerly performed by four local health boards to regulate independent and public sector health provisions, such as hospitals, children's homes, nursing homes, and residential homes. The remit of the organisation is expanding to cover services such as domiciliary care, day care centres, etc. so the actual physical staff resources of the company are growing. Organisation B is based over two locations, with around 10 staff in the smaller location and around 120 people based in headquarters. In addition, they have a pool of bank staff that may be brought in from time to time if a particular situation arises where they are short of full time staff. However, being conscious of Value for Money (VFM) on public expenditure, Organisation B aim to keep external appointments to a minimum.

Although Organisation B is funded by the DHSSPS they are considered to be a non-departmental public body so are independent up to a point. However they are a highly regulated organisation. As B1 outlines, *'there is a range of legislative requirements that we have to adhere to, there are a number of statues and orders. We must carry those out to the letter of the law. They take in all kinds of things . . . there is a whole raft of criteria. If an establishment fails in one of these legislative requirements, ultimately we have recourse to law and that is used, but only in a very limited number of occasions. We prefer to work in partnership with our stakeholders and that generally is the way it is. The independent sector has to be properly policed and there is obviously a slight temptation to cut corners so we look out for that'*. Inspections are carried out twice a year in most establishments; one is announced, one is unannounced. There are also specialist inspections, pharmacy inspections and financial inspections.

Organisation B has quite a large board (12 members). The Senior Executive team is formed of the Medical Director, Director of Operations, Director of Corporate Services, and Director of Quality Assurance. There are a number of operational teams led by heads of programme. Organisation B has a sister company based in Edinburgh, Scotland.

Five interviews were conducted within this organisation, as shown below:

Overview of interviewees coding	Role
B1	IT Management
B2	Data Management
B3	HR Management
B4	Records Management
B5	Information Management

Macro-environment

Organisation B tend to look to their sister company and other external networks for guidance. As B1 states, *'I suppose they have been established longer than our-selves, so certainly there are close links between them and ourselves and yes, we want to adopt best practice wherever we find it*. One of the aims for networking is to ensure a lot of time and money is not spent reinventing what is already available. As Organisation B has become more confident in its operations they feel they adding value and *'not just somebody who's always asking. Hopefully we're making some sort of contribution to the overall picture' (B1)*.

The current economic climate is having an effect on Organisation B; however this is to a limited degree as a public authority they have always been conscious of expenditure and use of public funds. B1 finds that *'increasingly we are looking at all our spend: VFM [value for money], we must at all times demonstrate that what we do spend is value for money. We are trying to work smarter and cheaper'*.

Organisation Climate

Although Organisation B is a relatively new organisation they have a long history. B1 felt that it has been a challenge merging the original four branches into one new organisation, *'to bring together four totally separate groups, all working to the same common registration but interpreting things in their own way. There were tremendous change management issues there in terms of getting common systems up working, even the fact that every office has their own work culture as you can imagine. It's taken us a while to get to where we are. Now we are really starting to move'*. Organisation B are based over two locations (referred to as HQ and location b), one of the challenges is ensuring coherent working practices between the two. They have connected both offices with IT networking which is proving to be beneficial, as outlined by B1, *'we have moved things on tentatively with direct access into our systems but there are other areas of communication improvement we are trying to bring into place. We are investigating videoconferencing at the minute. We are looking at other ways we can use technology: 20 % of our staff are using Blackberry technology. Maybe location is geographically isolated but we are trying to minimise that. And again the operational teams span the two offices, so if there is a team meeting, generally they will come down to HQ. So we are trying to minimise the traffic between the two offices and we are getting there'*.

As Organisation B are moving towards a more coherent internal approach, they have just developed a new corporate strategy based on Value Creation Maps, a methodology developed by Bernard Marr. While they reviewed a number of methodologies, they selected the Value Mapping approach as it goes beyond the Balanced Scorecard, and is attractive as it allows visual representation of the strategy, on one page, as B3 declares, *'For the public or other stakeholders, it is an instant take. With one page you can walk them through the strategy without going beyond the map . . . the tool has been brilliant. Where it requires a bit more work is in terms of the KPIs. From my perspective that was the most problematic aspect of the project. Some of our KPIs are more reports'*. Organisation B are not

aware of the exact number of KPIs but they have quite a few, which is challenging for the company.

On the back of the Value Creation Map, Organisation B has approved a new strategy, in developing the strategy they have involved staff as much as possible, and other key stakeholders, via written communications, team meetings and in workshops specifically focused on developing the strategy and the performance measurement framework that goes with the strategy. As the company intends individual objectives to come from the strategy and the business plan, so objectives cascade down, and in return individuals should be able to see their contribution to the overall delivery of the strategy for the organisation. Based on the strategy they have also created a mission statement. In the Value Creation Map there is a value proposition and four core activities that are the 'must-dos' for the organisation. There is a hierarchy within the Value Creation Map, so value propositions are defined first, then core activities, then value drivers, and then the supporting resources. It is a top-down, bottom-up model. The core activities are the key things as to how the value proposition is delivered, which is how to deliver value and add value to stakeholders. Interviewee B4 outlines how staff are responding to the Value Creation Map, *'that is now in the new corporate strategy, so everyone is getting to grips with something that looks quite fancy, but is really just looking at your own particular area and asking what each value driver means for you. You can see where you want to go, what is expected of you'*. A copy of the strategic plan is available on a shared folder that all staff can access. The ethos in Company B is to promote business improvement as part and parcel of every manager's role to drive the organisation towards future quality assurance awards such as EFQM, ISO and IIP.

Organisation B has an open plan working environment, which is positively accepted by staff, even though negative aspects exist, as outlined by B3, *'There are benefits with the open plan, the main one being communication. There are disadvantages. Particularly as director, you are completely accessible. When you are trying to work on something, people will come up to your desk. If you are trying to write a report, or to focus on something, it can be very difficult because there are noises off, or there is a meeting taking place a few yards away from you'*.

One of the positive aspects identified with having an open plan environment is the ability for teams to work closely. As B1 declares, *'I think there is a fair bit of working between teams. I mean, just the fact we are open plan – essentially it is a tremendous bonus in terms of office communication. We are a small organisation, so I don't think we can afford to work in little side roles. There is a lot of cross working'*. In agreement, B2 states, *'sitting close to the team works really well. First of all, it breaks down the barriers. I hope the guys can approach me – I am not that stranger in another building. We get a lot of synergy. When we get phone calls I can shout across to the relevant member of staff to find out the issue. If someone is on the phone to one of them giving them a hard time, I can tell them not to worry about it . . . I'm like that too with others: if I want an answer, I'll get an answer. I think that contributes to an extremely fast paced environment. I haven't seen any organisation as powerful as [B] where the Chief Executive actually sits on the*

same floor as everyone else'. She concludes by declaring, '*It is enjoyable to work here. There are good things here. In a normal place, the directors have their own photocopier, so if our photocopier breaks nobody really cares. Here, the director has to queue, and if it is broken, he doesn't get his copies*'.

However, the fast-paced growth of the organisation has had an impact on the management of teams. B5 declares, '*Just personally speaking, because I've now been asked to be responsible for so much, it's very difficult to keep up with how much the team is producing. To find time to even sit down and talk to them about what they mean by that bit of the policy, how will that impact and to go through it all and have a session about it, it's very difficult. I certainly feel it in terms of how much I'm responsible for, and I almost feel guilty because I can't touch base with them as much as I used to. Having said that I still feel what we are doing is sufficient and they are great at keeping me up to scratch and letting me know what's going on. I think that the bigger an organisation gets, the more difficult that gets. The advantage here is I still think there is a small group atmosphere. Sometimes isn't great either because you have a little clique-y thing going on. I think it happens no matter what size you are. It happens everywhere. People come together in little groups and other people get excluded.*'

Technology

Organisation B outsource their IT, but also have an ICT Delivery Manager employed to oversee IT development. They claim outsourcing works well, though they do have the option to take IT control back in-house if they wanted. The decision to employ an ICT Delivery Manager was based on the growing needs of the company, as B1 declares, '*As we expand in numbers, as our role expands, we are very heavily dependent on ICT. Most of our inspectors now would have ICT access to email and our systems from their homes, employing 3G technology, Blackberries and we are really pushing the boundaries of technology. We felt we needed somebody who could pretty much concentrate just on that one area*'. While Organisation B employ a number of software applications, they do so in standard ways, as B1 highlighted, '*these days Microsoft Office is just about the only show in town, I honestly can't think of anybody in the past two years who has come in and said, "look I've never used Office before". We will always make training available if people have any difficulty with a package. Though we use technology a lot, we are using it in fairly simplistic ways. I'm not aware of staff who are having any difficulty with ICT*'. Information storage is also portrayed on a fairly low level (shared folders is the most common route) though the company outlines their wish to use the Intranet more: '*We have what we call our file store. There is space on our server where all our information is stored. There's a whole series of permissions and hierarchies in terms of who can access what. But we want to formalise it more* via *a proper intranet. I suppose in a way we have certain common shared areas where we do store information, so I suppose it's a very simplistic shared intranet area. We want to have a proper intranet*'.

Being in an open plan environment B1 feels there is still too much reliance on email as a communication method, '*I think sometimes people use emails too much.*

You receive emails literally from people who are within touching distance over things that are not worth it to go into print about. I think in general there is a reasonable balance between casual informal communication and slightly more formal. We are always being asked to archive people's accounts. We tend to get a lot of stuff with large attachments. We are encouraging people to deal with the issue, take the attachment and put it wherever it should be, in a folder or file. We are very reliant on email. It uses a lot of space on the server'. One of the reasons for this reliance on email is for accountability; people tend to store email so they have a record of events that have occurred. This policy may change in the near future when the new ICT manager introduces a formal policy on use of ICT, including email.

One area for future investigation is the use of Business Intelligence (BI) tools, however securing funding for a complex suite seems to be a pipedream. As B2 outlines, '*We are a reasonably small organisation, so data drill down can be done manually, it's a bit more tedious, but at the end of the day the information is there. The form is almost cosmetic. If there are issues, they can approach us. But they [staff] can also run the reports themselves that give them the detailed information, so they can have a look themselves. At the same time, I have assisted people, telling them what it means. It would be great if we have everything, but looking at our budget and what a good system costs, given the complexities of the organisation we would need really good friends in the department to get that money'.* B3 also comments on the funding issue stating, '*If we had a few million more, we could incorporate BI'.* In concluding the technology section, B5 outlines that the technological spectrum is healthy and that people should be aware and appreciate the resources at their disposal.

Information

Organisation B has established an information team with emphasis on service improvement and regulation. The need for an information team is outlined by B5, '*Previous to that, I think they had an information person, but in the main they were just working on some discrete databases and that. This was a move to bring a corporate strategic approach to information management and then to link up other areas like records, the management of the analytical side, the databases and then get all those to relate. We wanted to actually incorporate that into the business flow. The policies and procedures that we are developing will determine how the system works, and then the knowledge management will all be there in terms of what information is generated; on what basis; how often; who is it reported to; who is responsible for it; what are the definitions; what are the KPIs. All of that will stem but it has been a slow process. We have been a year at it now, and our remit seems to get ever increasing, but it's a long road ahead of us. We have a lot to do. I feel we are relatively embryonic, at the beginnings of things'.* As Organisation B is a regulatory body, by law they must maintain an accurate, up-to-date register on establishments they monitor, containing details such as address details, what type of establishment it is, what the user groups are, manager details, and the proprietor. As B3 outlines '*All of these things have to be approved by us, so it is not just a database. You cannot just change the address, for example, because if the address*

changes, obviously the building has changed, and we will have to approve the building again. It is a huge management process as opposed to just holding information. At the moment, we have an Access database, which has some limitations'.

One such limitation is scalability, as B3 declares, *'At the end of the day, it is about scalability. Although it is small, it has to work in the bigger picture as well. Working with a huge amount of data forces you to be very methodological'*. Information is provided openly to for all interested parties to view, *'every Friday they get a browse-able version to look at . . .but everyone can look at everything. The registry is public, so anyone can request information . . . There is a free flow of information'*. Organisation B are finding this information flow beneficial as they are now receiving information from their clients faster, as B3 outlines about a recent information call, *'It is a culture change. We actually received a 97% return rate which is quite impressive for 1200 establishments. But to get there took quite a bit and we had to just harass them until they did it. We just had to be persistent. It is more that if they do not reply, they will hear from us again. We do not go away'*. Fulfilling information requests from staff is challenging, as B3 declares, *'If you have ever worked in information people tell you what they want, and when you ask them it turns out it is not really what they want. I have learned to query why they want it, so I can suggest what I think they really want'* while B4 states, *'The project teams will know how they want information to look, and will ask if we can facilitate it'*. Lack of information requirements has resulted in poor system development, *'They developed the current system themselves. It has now come to us, and it is full of problems. We would not have done it that way. It is too late now to change it, so we have to go with it, to piece a broken egg back together. We just have to tweak it and make it work as best we can. We are not magicians'*.

Information resources are outlined to new employees during the induction process. The team manager outlines the level of access the person is entitled to (read write, read only) and that will be communicated at team level. If someone is unable to access a folder they can request authorisation which is generally granted in a few hours.

People

Staff in Organisation B tend to be recruited from similar professional backgrounds as B1 outlines, *'A lot of them come in as former social workers or nurses or from professional backgrounds, say pharmacists. I would say for most of our staff recruitment now, it would be pretty unusual if they weren't a graduate. A lot of our secretarial staff are graduates. They see a career path, and quite a number of our staff have actually managed to be promoted, either internally or externally'*. Other staff also commented on the organisation being an attractive employer. This is evident in quotations such as, *'We are seen as a good organisation to join and the perception is that we are growing numerically. I'm not aware of any difficulties in recruiting staff'* and *'So I think we're seen as an organisation which places staff development as a very important feature of recruitment and retention'*. The

retention factor is also evident through the low staff turnover. B1 claims they have only lost two members of staff in recent years, one of whom transferred to location b.

Organisation B employs flexible working arrangements depending on the level of employee (based on the public sector banding structure). There is also the option for location based working though many staff don't actually have official working contracts yet, but this is something B1 outlines will be happening in the future, *'I think ultimately we will have some form of home work contract. It makes financial sense because we're not far off bursting at the seams here spacewise. My feeling is that there will be a reasonable uptake but obviously we have to manage that and look at business needs, business requirements and how that model of staffing provision fits the operational side of the organisation. It's happening elsewhere and I don't see why it shouldn't work here'*. B3 also outlines home-working is something the company are considering, *'We don't have a formal home working policy in place. That is something we are going to develop this year, If there is a particular justification, then there is no problem about working from home. You do tend to be more productive'*. B3 outlines that the provision of location-based working is something that needs to be carefully managed, claiming *'My view would be that that sort of arrangement would need to be carefully managed. At the end of the day, it is not about where you are, it is about deliverables. If you are working from home because you are working on a report, when you come back into the office the work should be complete, so that it is demonstrable what you have done, and why you have been working from home'*.

Organisation B is keen to encourage ideas from staff, which can be fed up to Senior Management through their line manager, *'I would say that this organisation is very receptive to that form of feedback. There are a lot of innovations and developments going on. I don't think it would be perceived by any member of staff as a static organisation. I think those ideas would be welcomed on any front, and we would run with good ideas that people would have' (B1)*. In terms of recognition for new ideas, B3 outlines the process, *'Certainly, you would hope they would be praised at team meetings if they have come up with a good idea. There would also be the opportunity, in terms of recognition, to present at team meetings, not only within the individual's team meeting but also at the wider team meetings, staff are given the opportunity in those different fora to step forward and get recognition for their work'*. Being a public sector organisation no financial reward would be given, B3 comments on lack of financial incentive, *'There is no chance of a bonus. This is the public sector. There is no bonus, no reward. But we have a good manager, and she will say we did well, and give us credit in exec meetings. Sometime I think that is as good as anything. It is nice to get feedback that things were done right, and that they are working well'*. A similar view was expressed in terms of lack of promotion.

Company B try to capture employee knowledge if someone is leaving the organisation. As B3 states, *'In terms of staff who have left before, within corporate services, they have been asked to document as much as possible. Obviously, their emails, documents and files are all archived off. There would also be an exit*

interview to walk through everything they have been working on, so if it has not been possible to have a handover to the new member of staff, at least their manager will know what they had been working on and how far they have gotten on with that. There are not other mechanisms in place to capture what was in someone's head'. B4 also mentioned lack of tacit knowledge capture: 'that is all kept in my head. You tend to know these things yourself, through experience; there is no mechanism in place for me to record my lessons learned or thoughts ... It is not documented anywhere'. In saying that, Organisation B was unable to identify any cases where information gaps were detected when someone had left the company, 'I'm not aware of any situation where there was an awful gasp and panic because someone had moved somewhere else. But we can always improve' (B2).

Organisation B operates family friendly working practices such as term-time working, career breaks, and secondments, even though take up on these are minimum. Holidays are linked to service, from 22 to 33 days depending on your length of service. After 10 years you will have 33 days. That is quite a benefit which every member of staff is entitled to. Socialising is encouraged through events such as the Christmas party. Teams within the company also tend to socialise together occasionally. When asked what the best things about working for Organisation B were one employee declared, 'Firstly, the pay packet: I have a mortgage to pay. Secondly, challenge on a personal basis. It is difficult to get to grips with. There is a lot more expectation than I encountered in previous positions. It was a steep learning curve, and there was no other in-house expertise, so there was no-one I could turn to for help if I was having a bit of trouble. I had to go to someone in another organisation and he was very helpful. Thirdly, you are facing challenges daily, wondering how you can take them forward, and using trial and error to make them work. I talk to people outside; I liaise with internal staff, to find out the bigger picture. Finally, the people I work with, the team I am based in is great, with a really supportive manager'.

Organisation B has been through a major culture change in the past few years, where strategy, communication and standardisation have been outlined as key challenges. The research team observed that Organisation B seemed to be strong in people and information elements but weak in technology, to which B5 responded, 'It is the bit that hinders us most, but I don't want to take a step of securing a piece of technology and it being wrong. So as difficult as it is with the technology the way it is – we make the best use of it that we possibly can, so we are making the best of what we've got but with a view that there are technologies there that we can use to improve'. Asked if the term Knowledge Management was used in the organisation, B5 responded, 'I wouldn't say the term knowledge management; we refer mostly to information management, the term information means everything here. I suppose we're still investigating what we could potentially do in terms of KM implementation'.

Case 3: Organisation C, Waste Management
Organisation C is a waste management service within a local authority in Northern Ireland. It has approximately 250 staff, split between site staff based at a number of

locations, several tens of collection squads and an office-based team. Each year, up to six students join the service from local universities or under the EU Leonardo programme from other Member States.

Six interviews were conducted within this organisation, as shown:

Overview of interviewees coding	Role
C1	Head of Service
C2	Business Support Manager
C3	Waste Operations Manager
C4	Waste Collections Manager
C5	Management Information Officer
C6	Projects Officer

Macro-environment

Triggered by best value, the local authority has been introducing a programme of modernisation over the past decade which has incorporated performance management and improving the efficiency of service delivery. As one of the largest authorities in Northern Ireland, there was widespread recognition of the importance to regularising management systems and standardising how services are delivered to residents throughout this transition. There is also an understanding that this programme of modernisation is accelerating, and that further fundamental changes are inevitable as a result of Government's programme of austerity and redrafting of local council boundaries which is coming into effect in 2015. There is an increasing appreciation of the need to update management practices and that ICT has a significant role to play in this context.

Against this backdrop, the waste management service has implemented a major programme of work to divert waste from landfill, avoid financial penalty and to meet the annually increasing recycling targets associated with EU waste legislation. As reported by McAdam and Walker (2003) local authorities' waste services have not used frameworks to structure change or deliver the corporate agendas as outlined above, but have primarily focused upon the technical imperatives of meeting these targets. This singularity of focus has meant that while they are high-profile universal services, their attention has been upon improving service delivery/achieving target and they have not contributed much to the corporate direction of travel of their organisations.

In this instance, the waste management service has been progressive in adopting different management approaches to assist in meeting the targets. The Excellence Model was used initially and, combined recently with some knowledge management approaches, it has (i) improved awareness of operational issues facing these services within councils (ii) encouraged greater sectoral sharing (iii) better disseminated best practice and (iv) helped offset the "*siloisation*" created by a simple operational focus brought about by the threat of fines for non-target performance. The service is aware that, being part of a larger local authority than many of its peers in Northern Ireland, it faces issues which detrimentally impact upon

meeting the targets and for which there are no other local comparators locally for how to address these. Consequently, its "*performance*" appears to lag behind many of its neighbours despite the considerable investment in terms of resources and skills which have been made to date.

The local authority has managed to keep the rate of inflation down to minimise the impact of the credit crunch on both residents and businesses and, most recently, the local politicians agreed a zero rate increase for 2013/2014. This rate is likely to continue for the foreseeable future which means that, in addition to the efficiencies achieved over the past 5 years, there are likely to be more fundamental changes to the organisational structure and manner in which services are delivered in order to continue to provide services.

Organisational Culture

The waste management service has played a significant role in developing a partnership with its neighbouring local authorities to establish a common agenda and to develop new waste infrastructure to meet the EU and national waste targets. This has meant working in close collaboration with these authorities' waste services to produce a Waste Plan which identified what technological mix was needed and was appropriate given the nature of wastes in the region, the political perspectives prevailing in the authorities, the timescale available to procure these facilities and the various requirements and contributions from the different authorities within the partnership. This has required, and continues to need, a considerable input to steer this project towards a successful conclusion.

In addition to this supra-council role, the senior management team of the waste management service has worked hard locally to establish a professional atmosphere within the local authority with all staff understanding the aims and objectives of the service and why achieving target is a key priority. To help achieve this, information is shared regularly

- Between the senior management team to focus upon strategic and operational issues
- Between the operational managers to ensure that there is a clear understanding of what's expected and to facilitate a two-way flow of information and ideas back from the front-line
- Through a number of task-and-finish working groups to consider and resolve specific issues (e.g. how to tailor individual services for the hundreds of apartment blocks in the area, how to embed health and safety into daily operations)
- With all team members through quarterly service-wide meetings and
- Between the trade union and key senior managers

The result of this degree of engagement has been to create a transparent organisation culture which is reinforced by the open-door policy that the senior managers use. "*It makes for an easy working environment where the team feel empowered to deliver on their work and, should there be any difficulties or problems, they can revert to their manager or one of the other senior staff to get guidance or help work out the best course of action*" stated C1.

As the service is clearly focused upon the EU legislative targets, there is a common language amongst the team (acronyms and all) which has been captured and established as a norm through the development and maintenance of an integrated management system. Running in conjunction with the corporate systems which track significant themes such as financial management and budgetary control, risk, procurement and contract management, and programme management, the service has built upon the early work on the Excellence Model to implement a framework which incorporates ISO 9001 (quality management), ISO 14001 (environmental management and OHSAS 18001 (health and safety management). This has been developed, and is regularly updated, in both hard and soft copy. Both these formats are available at the different locations within the local authority area and continue to be used because (a) many staff are more familiar with paperwork and folder storage and (b) it makes it easier for site inspections when the regulators visit. This approach has worked well with few observations recorded to date. The resultant series of procedures and approaches, which have been and continue to be refreshed on an ongoing basis over the past decade, are independently audited each year and further reviewed and refined in light of comments received. This integrated system therefore is in a constant state of evolution and is applied uniformly throughout the service and forms the backbone for service delivery.

As the key aim of the service is to achieve legal compliance with EU and national legislation, this means that considerable emphasis is placed on ensuring that the legal register is maintained and that all team members are aware of what contribution they are making to this objective. One of the challenges for the waste management service however has been to ensure that the scale and scope of what it is seeking to achieve is recognised corporately and represented within its planning programme: to date, there have been mixed results.

The local authority recognised that its performance management system was outdated and in need of review to ensure that a common system was adopted council-wide. In this regard, it considered the various management approaches which were being applied in the public sector and, after considering how a balanced scorecard could be developed, it started work with Bernard Marr to develop a new corporate strategy based upon value mapping and the development of a Value Creation Map (VCM).

The new VCM worked on the basis of cascading the corporate priorities throughout the local authority, with each subsequent management tier developing its own, more detailed version. The aim was to create a pyramidical flow of actions and responsibility to deliver the priorities. Measuring performance against these corporate objectives was to be achieved by use of a small number of focused performance indicators (PIs). The aim was to better link planning, budgeting and performance under one corporate VCM, supported by 17 aligned service VCMs and 112 corporate PIs. There should be between 10 and 15 service-based PIs per service which were then carried through to individual manager's personal development plans.

The importance of ensuring legal compliance arising for waste management was recognised as a priority and captured within this new corporate performance management system. One underplayed issue within this new VCM was the variable degrees of risk inherent in delivering the Waste Plan in an immature marketplace as

Northern Ireland's industry base is predominantly SME (many of the commercial organisations in the sector are in the early stages of development). This has meant that considerable effort has had to be spent by the waste management team to plug gaps which have arisen in the delivery of this Plan arising from

- Termination/delays in procurement arising from, for example, legal challenge,
- Acquisition/demerger activity between local/national companies and the generally immature state of the waste management industry in Northern Ireland,
- Changes in Government legislation and policy, and
- The need to target specific waste streams to ensure that the legislative target compliance could be achieved.

This has led to on the one hand, clearer articulation of what the waste management service will do against this variable backcloth while, on the other hand, corporate managers have been reserved in engaging with the service due to the perceived complexity, uncertainty and difficulty in delivering projects.

The strong organisation culture in Company C has tended to stress the priority of target compliance which has provided a clear focus for the waste management service. Also, given the corporate focus in preparing for the reform of local government which will shift the local authorities boundary outwards, introduce a range of new services around place-shaping and regeneration, planning and community planning, housing, local economic development and tourism and while not commensurately increasing its budget and staffing levels, this has meant the corporate managers have other priorities to focus upon. The result is that, while there was a window for waste management to make a greater contribution to the corporate agenda, with the focus now on meeting target, maintaining the existing frameworks and doing more for less, the emphasis has remained upon service delivery within the technical confines of the service.

Technology

Organisation C has a dedicated service which has been instrumental in developing and implementing a corporate approach to information and communication technology council-wide. This has flowed from the type of packages which are used corporately (SAP) through to specialist systems which support particular needs of the different services (FLARE). The local authority is using standard Microsoft work packages for daily transactions and to support both internet and intranet. A corporate programme was in place until relatively recently to ensure that all computers over 5 years old were replaced on a rolling basis. The senior officers are all expected to be available on blackberries for mobile phone, text and email purposes.

It has recently been recognised though that, in this period of credit crunch, the authority cannot continue to maintain and service such a disparate collection of needs around the different systems (there are over 100 in operation council-wide) and, much as occurred with the corporate strategy a decade ago, a process of standardisation and simplification is underway. This is further driven by the need to prepare for local government reform which will introduce additional needs and

expectations from the new services joining which may also be using different standards and systems which will need to be aligned.

In terms of the waste management service, over the past 10 years it has been working with the authorities' ICT service and an external contractor to develop and refine a package which permits the recyclates presented by residents to be recorded when being collected (i.e. it allows for the service to gauge the level at which different areas of the city are recycling). Each recycling bin has a chip which is assigned to a house and records when it is lifted by one of the local authorities' refuse collection vehicles. The resultant "*heat*" maps which are produced by mapping the results within the council boundary are then used to target the service's door-knocking resources to engage with residents and to address any concerns and to encourage them to take part. These team members have mobile phones to allow them to communicate with the office and tablets to allow them to engage directly and competently with residents by providing pictures of recyclates, access to Council policy and show pictures of what happens to the materials post-collection.

Further technology is used to manage the residual waste and recyclables at (a) the kerbside (b) the Household Recycling Centres and (c) the Waste Transfer Station. These are in the form of a fleet of refuse collection vehicles of various sizes, smaller pick-up transit-type vans, a number of static and mobile compactors, and several loading shovels for loading articulated lorries. These vehicles are used on a daily basis. Weighbridges are used at a number of the sites to weigh vehicles on/off site and the provide data through recording tonnages and tracking performance against target.

Information

As the corporate priority for the waste management service is to ensure annual target compliance on an ongoing basis, considerable emphasis has been placed on the gathering and analysis of data over the past decade. During this time, many new actions have been introduced, both at partnership level as well as within the council itself, to improve the overall recycling performance. As a result, the recycling rate has risen from around 4 % to just over 40 % presently.

As per most areas of professional and personal life, in terms of managing the firehose of information which has started to flow ever more freely, there are times when officers working in the waste services sector feel swamped. There is also a challenge to balance and analyse the new data generated or the technical information arising from benchmark services and from within the sector at large. New approaches and systems are being used to assist in this endeavour.

In order to track local authorities' performance both individually and collectively in order to determine if the UK will comply with EC legislation, Government introduced a management information system, called WasteDataFlow, to ensure that progress towards delivering EU legislative compliance could be tracked and into which every UK council inputs data on the performance of their recycling and composting arrangements. This dataset permits Government to determine which local authorities are performing well, and which are not. It also allows different local authorities the same facility and, following analysis of the data and the resultant information, has facilitated benchmarking:

- On an ad hoc basis,
- On a historical one,
- As a "*best in class*" exercise and
- Against nearest/similar neighbour

Drawing from this information pool, local authorities have been able to see what appears to have worked and to develop appropriate similar services for their own areas. In terms of the local partnership in Northern Ireland, and regarding managing the residual waste procurement exercise, a complex spreadsheet has been developed which allows for the outcome of the different recycling initiatives to be captured and manipulated to determine what approaches might yield the best results in improving recycling yield for individual local authorities, and how this may impact upon the overall residual waste left needing treatment. As there are several local authorities within the partnership, all with slightly different arrangements in place, considerable resources are needed on an occasional basis to ensure that the information within the spreadsheet is maintained, is up-to-date and to consider what the implications arising from certain actions are both (a) for the individual council and (b) for the overall partnership. Typically, questions are raised, such as:

- What information do we have?
- Can we make sense of it?
- Is it useable?
- Can we present this information in an easy to understand way?

To augment the high-level work done by the partnership in tracking outcome and predicting performance, as covered earlier, the data from the bin chips is used to produce "*heat*" maps which show which areas have been participating and to what level. This ensures that the local authority can target its squad of door-knockers to focus upon areas where participation rates are lower in order to encourage greater engagement and continue to deliver an improving recycling rate for the area. Shared folders have been created into which these monthly updated maps are stored, and different members of the team are able to access them from their workstations to inform their projects and target their efforts.

The local authority has also adopted a corporate performance measurement system, called Corvu, to assist the Corporate Management Team (CMT) in managing performance across the whole organisation. This is a widely used automated system which has been rolled-out to help embed a performance culture. It was chosen as it allows for a single performance system with standardised reporting to be in place council-wide and is easy and intuitive to use. The framework being used set a quarterly reporting schedule to CMT at which departmental and corporate reports are considered. At the next tier, the departments regularly review performance by PIs and consider the (re-)allocation of resources in order to improve service delivery or target particular issues. The local authority's recycling performance is monitored and reported upon within this framework.

Organisation C is also looking to bring together multiple different information sources so that they can be better shared; it is doing this under a CityStats banner.

This allows for the growing demand for small area statistics to be presented at different geographies (e.g. ward level, electoral areas, quadrants, &c). There are a number of services which are eager to access this data, community safety and parks and leisure through to waste management and economic development. Typically, these services are looking for statistics and data around the socioeconomic situations prevailing in an area (e.g. unemployment figures, number of businesses, disability & health data, crime), data for consultations (what do residents want for their area?), what the investment plans are for an area.

When finalised, CityStats will allow the gathering and retrieval of information by theme on an intranet website and aid in the focus of regenerating the city. It is expected that this single point contact for all the spatial information within the council will allow better mining of the data and, as is being heralded by waste management, permit more in the way of geographical "*heat*" maps to diagrammatically present datasets from a wide variety of council systems, map statistics at a small area level, impose data quality standards, improve local area analysis and reporting, and to publish information in a different manner of ways.

People
Organisation C operates standard local authority terms and conditions, for example, access to overtime, time off in lieu, statutory maternity/paternity leave. Work hours for the staff within the waste management service vary depending upon their operational role; in this regard the office is staffed from 08.00 to 18.00 Mon-Fri but those working on the Household Recycling Centres work a 7-day a week shift pattern which varies between summer and winter. The Waste Transfer Station team work from 07.00 to 16.00 Mon-Sat while the refuse collection squads work from 06.30 to 15.30 Mon-Fri. There is limited scope for flexible working practices as many of the roles are dictated by the requirements of the post.

There are a wide range of backgrounds represented within the service, from basic school education through vocational qualifications and post-graduate degrees. There is no one qualification or skills set which predominates which makes for an interesting and ever-evolving discussion around waste and resources management. There is a regular cycle of meetings at individual, team and group level which is supplemented by specific meetings to address (a) the integrated management system and (b) ad hoc meetings to consider items such as review of the Waste Plan, development of a new action, quarterly recycling performance and next steps. C1 outlined "*generally, the Service works well and it has consistently risen to the ongoing challenge of meeting the ever-increasing recycling targets. What this means is that immediately after induction new starts tend to very rapidly get assimilated within their respective team. The rate of progress is continual and I've given up saying 'don't worry, next year it'll be easier'. The service has tended to operate as one big family and, truth be told, I feel very paternalistic and protective of them.*"

To provide operations on a regular basis, considerable use is made of email and mobile phones, supported by laptop computers and the occasional tablet. The majority of staff are not office based and many staff are constantly mobile and so need to stay in touch using these tools. Knowledge is also captured and shared within the teams using a series of PC-based folders into which are copied (a) operational plans and the service's Waste Plan, (b) the integrated management

system, (c) the "*heat*" maps and (d) many of the corporate policies and procedures (i.e. risk assessments). There is an increasing understanding of the importance of documenting and cataloguing the work but, as this is a local authority, in many regards this is merely reinforcing the existing approach – each month reports are taken to Committee outlining developments and proposals which are then discussed and approved by Members. These are later ratified at full Council. Any proposal of scale must follow these steps. Consequently, there is golden cord arising from the development of plans and budgeting, through to the approval and instigation of projects which is well understood within the team.

As the team is well-versed in the issues around waste management, they are also encouraged to take part in the extra-curricular activities in the sector, such as represent the local authority at national conferences, speak at these events when requested, and contribute to the local and national professional bodies where appropriate. This has meant that staff within the waste management service are recognised as being professional and hard-working by their peers. C1 reflected this when he said "*for many years, the service and I have introduced a wide range of new services and, through field research (i.e. learning by applying what we've seen others do, trying stuff out for ourselves and innovating) we have got a reputation for being progressive and eager to improve. We've sought to share this 'enthusiasm' for waste and resources with everyone in the Service and have supported them take a proactive role outside work, in their communities, hobbies and professionally, whenever feasible.*" Overall, Organisation C appreciates challenging times ahead, looking to KM to aid organisation development and sustainability.

5   Discussion

A significant portion of the research concerning the UK public sector's use of management approaches and how it responded to change was focused upon best value and performance management but, increasingly, the positive role that can be gained from using a KM perspective is being clearly articulated. Application of KM should lead to a well-designed and managed change programme, responsive to environmental changes external to the organisation. Aspects for public sector development include sustainability, cost reduction and efficiencies, conservatism, ability to work smarter, and innovation.

To date, however, KM has not been explicitly referenced nor the KM tools badged clearly as contributing to this agenda. Therefore, the benefit of using KM is not being seen as a control mechanism to help structure change and deliver improvement in service delivery, despite these aspects being an increasing unavoidable aspect of Government's response to the credit crunch. Despite this, strong KM which seeks to embed information, technology, people and processes into an organisation's culture is becoming the norm, as shown by the case studies and, in the process, it is contributing to the transformation of services and driving improvements in performance.

Within public sector organisations conflict exists regarding external pressures, reflected on internal organisation climate (OC). On one hand, OC is viewed as

positive, expressed in flexible working practices, employee loyalty, low staff turnover, etc. while on the other, it is viewed as static and stale, stifling creativity and innovation. While one staff member may describe OC as '*interesting*' another refers to it as '*cynical*'. One way to reduce such varied approaches is via company strategy/mission statement. Communication has been identified as a key issue to develop positive organisational climate, as has the need for transparency within organisations and for public value for money.

Embedding technical climate into public sector organisations is challenging. While strong technical climate/infrastructure is key for promoting and supporting KM, issues surrounding scalability, information storage and communication tend to exist, a challenge for public sector organisations is the provision of robust, integrated systems that can be utilised globally for information storage, share and application.

Technological tools for KM can be classified into three categories, namely, intelligent tools, support tools and web-based tools. For KM to be successful organisations must select tools which are not only familiar to the employees but of use. The KM arena has suffered in recent years with the re-branding of traditional tools (such as office automation systems) as KM systems. Organisations need to look at their information needs, choosing technology systems and applications to further advance the knowledge agenda. In the public sector ICT systems are used for information capture, storage and use, knowledge acquisition, communication and to obtain expertise into and within the organisation. Security of technological systems/tools is a problem which many public sector organisations face. While it is crucial that public information is adequately protected, security can have a detrimental effect on knowledge sharing if it is too controlled.

Other technology challenges include location-based access to systems, single sign-on, better internet access and use in terms of content filtering, searching and semantic labelling, system access to areas that are beyond access boundaries, and reduction of corporate knowledge silos. However on a positive note public sector organisations interviewed found that '*employees are willing to accept new technological implementations if provided with tools that make it easy for them*' (E3) and are willing to '*actually relinquish some of what they perceive as control over the information and at least allow people to see it*' (F2). Technology tools such as Internet and email enhance communication channels while information systems encourage content management, knowledge sharing and information accessibility. Security needs to be high yet flexible to encourage knowledge sharing and technological use.

Information should flow easily around the organisation ensuring that people have access to '*the right knowledge in the right format at the right time*' (Davenport and Prusak 1998). Systems to facilitate the capture and dissemination of information throughout public sector organisations facilitate information capture from both internal and external sources. One element to be considered in ensuring accurate information systems is that of content management. Responsibility must be taken to ensure that information sources are up-to-date and relevant preventing databases and other storage mechanisms from becoming static repositories of obsolete data (Davenport and Prusak 1998). Reflecting on the need for an information strategy

Company E is an example of good practice as they have awarded considerable time and effort to creating an information strategy.

Knowledge-oriented organisations respect employee emancipation and welfare, evidenced by informal interactions and practice (Haas and Hansen 2007). Views on flexible working practices seem to differ within participant organisations. Consistent with the literature (see Davenport and Prusak 1998) much KM work takes place in teams. Senior management tend to lead by example, creating an atmosphere where new employees soon feel settled and ready to participate in flexible work practices. Flexibility is key to helping new staff fit in. Succession planning is one KM initiative most organisations are considering.

People issues are the most stretching for organisations to adopt. Changing individual perspectives, gaining staff buy-in for change, and implementing change consistently across all levels of the organisation is challenging.

6　　Strategies for KM Implementation

Current KM literature outlines a number of strategic approaches, for example Hansen et al. (1999) consider codification versus personalisation, Robertson (2005) introduces a top-down and bottom-up approach and Choi and Lee (2002) link strategy to the knowledge creation process, to name but a few. With no intention of re-inventing the wheel, this chapter has identified a number of factors for KM implementation strategies, taken from in-depth literature review and empirical research in the form of both quantitative and qualitative investigation. Case research undertaken with three UK public sector organisations identified (via content analysis, Nvivo) a number of key themes for KM implementation, these are displayed in the following word tag (Fig. 3).

Fig. 3 KM strategies tag

Conclusion

While an increasing number of organisations are realising the benefits of active knowledge management they are also discovering the difficulty of KM implementation (Birkinshaw 2001). Results from an empirical study conducted in early 2009 with 588 UK companies, applying the MeCTIP model and 'Benchmarking KM' online survey tool, provide insight into key elements which organisations must focus on for KM success. Two of these relate to the infrastructure of the organisation in terms of culture and technical infrastructure while three relate to process orientated activity for information, technology application and human expertise.

The effective measurement of KM enables organisations to have a more upstream, predictor focus on business performance (Zack et al. 2009). As the creation of new knowledge and its embodiment within the organisation is likely to lead to new product/service development (Johnston and Clark 2008), the measurement of knowledge activity within the organisation, resulting in increased business intelligence and competitive advantage will facilitate UK companies' sustainability, growth and maturity 'riding the storms' of the current economic climate. It has been reported that Governments recognise that improving national and international effectiveness and competitiveness is based on deploying knowledge management approaches (OECD 2001).

As reported earlier, however, Cong and Pandya's (2003) research highlighted that the public sector was lagging behind, and cross referencing this with the details provided by the cases shows different approaches to implementing knowledge management. The size of the cases shows that, even with smaller organisations, there is still a range of perspectives to be considered when capturing information and then ensuring that this is distributed and available. There is also the unswerving NPM belief in Government that the techniques and approaches employed in the commercial world would be beneficially employed in the public sector. In terms of the current economic climate, this means that while the private sector seems to be rebounding gradually there is a delay in the public sector which is likely to take several years to work through and, without the stimulus of increasing profits, it is not clear how long it will take the public sector to rebase as a result. As the focus of the public sector shifted from performance management to efficiency (Schlafke et al. 2013), this has meant that best value for money is the predominant paradigm prevailing at present, a perspective not likely to change and which, combined with a loss of funding, means that significant structural change is in store.

The cases continue to innovate and improve despite the contradiction that, while knowledge management could be particularly potent in improving the effectiveness of operations, there is an increasingly dark spectre for them of cost savings needing to be realised to demonstrate efficiency. If Government could reflect upon the evidence supplied within the cases, and its approach to knowledge management, an alternative approach to managing the present rebalancing in a more productive and imaginative way could be developed.

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