Group Perceptions of Knowledge Management

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Abstract
This paper reports preliminary results of a project investigating how staff in UK organisations perceive knowledge management in their organisation *as a group*. The group setting appears to be effective in surfacing opinions and enabling progress in both understanding and action to be made. Among the findings thus far are the importance of the knowledge champion role and the state of the "knowledge management life cycle" in each organisation, and continuing confusion between knowledge, information and mechanisms.

Keywords: Knowledge management, facilitation, group decision support, knowledge management life cycle, knowledge champion.

1. Introduction

It is generally accepted that effective knowledge management depends on the organisation in question, and that there is no one best "solution". A key reason for this stems from the culture and systems of the organisation concerned (Scarbrough *et al.*, 1999). However, most investigations into knowledge management in organisations either survey one individual from each of many firms, or individually interview several people in one organisation. This paper reports the results of the first phase of a project investigating how staff in UK organisations perceive knowledge management in their organisation *as a group*.

The research was carried out in the form of a series of twelve facilitated computer-assisted group workshops, covering ten different organisations in the UK (three workshops were conducted for the same organisation). Such an approach has previously been used extensively in strategy development (Eden and Ackermann, 1998), and has begun to be used in managing project risk. However, it has not previously been used in knowledge management.

The next section gives more detail about the organisations that took part in the workshops, although some details have had to be removed in order to preserve their anonymity. The following section explains the approach used, and the way in which the workshops were conducted. We then proceed to explain the principal findings so far. Finally we outline our plans for further work on this project.

2. Organisations, Themes and Participants

2.1 Organisations

Organisations in the UK were invited to "participate in a project investigating knowledge management and its links to organisational strategy". Note that we had to contact some 1000 people (some of these may have been in the same organisation, so the number of organisations contacted would be slightly fewer than 1000) in order to achieve the initial target of 10 organisations. We succeeded in achieving our aim to obtain a range of different sizes and types of organisation. The 10 break down as follows:

- 3 broadly in the service sector

- 3 in manufacturing
- 3 commercial but not-for-profit
- 1 police force

In terms of size, they ranged from SMEs to those with a turnover/budget of hundreds of millions of pounds. Table 1 gives more detail about the organisations; their identities have been withheld for reasons of confidentiality.

Table 1: The organisations taking part in the workshops

Organisation	*Brief description of organisation*
BS	Business-to-business services, 12,000 employees, Turnover £200M, listed PLC
DI	Design/installation of high technology equipment, subsidiary of overseas listed company
HA	Non-profit registered social landlord, 500 employees managing 5,500 homes
IC	International technical/engineering consultancy, division of FTSE100 PLC
MHT	Manufacturing high technology, £100M turnover and 800 employees, privately owned
MI	Manufacturing industrial products, privately owned
NSB	Not-for-profit membership owned non-statutory consumer protection body
PF	Public sector/Police force with 3,700 staff and £140M budget
RB	Retail/Service business with about 12 major brand names, division of FTSE100 PLC
RDA	Non profit distributing membership-owned research and development association, 550 employees

Subsequent to the first workshop, two further workshops were held for PF, making 12 in all.

2.2 Themes

In accordance with the principle that there is no one best solution to knowledge management, the organisations themselves determined the specific content of the workshops within the broad field of knowledge management. Three slightly different styles of workshop emerged:

- those looking at knowledge management across the whole organisation or unit;
- those addressing a specific theme (communications for PF);
- those concentrating on a particular project or situation (a new computer system in DI, results of a merger in MHT, possible site relocation for MI, the limited future life of NSB).

2.3 Participants

The only condition imposed on our research by CIMA was that one of the participants in each workshop had to be an accountant. Apart from that, the selection of participants was left entirely to the organisations themselves. The advice that we gave them was that the participants should include "...a sufficient spread of people with awareness of, and responsibility for, knowledge management...[and] one person responsible for securing the commitment of resources towards achieving whatever outcomes and actions are decided upon". We suggested that there should be between 6 and 10 participants in the workshop itself (in one case, there were also some non-participant observers). Too few participants, and the range of views represented would be narrow. Too many participants, and the group dynamics become more complex and the facilitator's job becomes much harder.

Each workshop was focussed on a particular organisation. Conceivably, "outsiders" have a central role to play in knowledge management, especially those from a partner or parent organisation. However, no external members took part in the initial workshops. However, one of the two additional workshops held for PF was specifically for "external stakeholders", including members of the Police Authority, local politicians, and a local newspaper editor.

In the event, the number of participants in the workshops varied between 5 and 13, each workshop lasting a whole day. In every case except one, at least one of the participants was at Board of Directors level or equivalent.

3. Project Objectives

We began the project with four research questions – to find out:

- What are the processes that are *currently used* in organisations to acquire, share, retain and utilise knowledge?
- What are the processes that participants believe *should be used* in organisations to acquire, share, retain and utilise knowledge more effectively?
- What metrics are *currently used* in organisations in relation to the acquisition, sharing, retention and utilisation of knowledge?
- What metrics do participants believe *should be used* in organisations in relation to the acquisition, sharing, retention and utilisation of knowledge?

At this point, a "health warning" is appropriate. Because of the mass of data generated, we have not yet finished analysing all of it in respect of these questions. The purpose of this paper is to report the progress made so far against these objectives, and also other aspects of knowledge management.

4. Workshop format and methodology

The workshops were intended to help the participants consider the issue of strategic knowledge management and design an implementable action plan which they thought would deliver better knowledge management for their organisation.

4.1 Facilitating group knowledge sharing about knowledge management

The aim of running group workshops was to uncover the complexity of the issue of knowledge management strategy from the diverse perspectives of a range of organisational functions. Many previous surveys of opinions about knowledge management have been carried out. However, almost all of the existing work either surveys several people in one organisation, such as (Fruin, 1997) at Toshiba or (Becerra-Fernandez and Sabherwal, 2001) at NASA's Kennedy Space Center, or one person from each of several organisations, such as (Gold *et al.*, 2001). In both of these approaches, the focus is on the individual, not on the group, even when the purpose of the study was to produce aggregate results.

Our belief is that to understand knowledge management in context, it is crucial to study the understanding and beliefs of *the group* about knowledge management, not just the individuals in it. The only knowledge management article of which we aware that deals with groups *as groups* is (Roth and Styhre, 2002). However, their objective was to facilitate the sharing of knowledge about a particular project, whereas our objectives were to consider knowledge management strategy in the organisation more generally.

From the organisation's point of view, the ultimate aim of these computer-supported group workshops was to enable group members to negotiate, and commit to, a unified set of outcomes (or action plan) which could be implemented to improve strategic knowledge management in their organisation. Group workshops were used because groups have the advantage of a wider range of knowledge about a situation than individuals. As a result, the "roadmap" developed should be more likely to be robust and feasible.

Using a computer-assisted group workshop environment to facilitate interaction has certain advantages. For example:

- Only one person can speak at a time in a verbally interacting group (Gallupe *et al.*, 1991). When using brainstorming software, all group members can share their opinions simultaneously and then structured, facilitated discussion can consider each issue in turn (Pinsonneault *et al.*, 1999).
- Ideas are shared anonymously in electronic brainstorming. People might feel apprehensive about verbally sharing an opinion when they do not know what the reaction of other, possibly more senior, members in the group might be (Diehl and Stroebe, 1987). Thus controversial or conflicting ideas may be shared more freely with computer assistance.
- Group members might be less likely to experience groupthink in electronic brainstorming (Janis, 1982), because participants have the chance to express their ideas before they consider those of others; therefore they have already formed their own opinions and might have attached some psychological commitment to them. The structured, facilitated discussion after the brainstorm is designed to explore the merits of different options systematically and in a balanced way, whilst also raising the awareness of the group members about alternative options.

4.2 Workshop methodology

One facilitator, whose tasks were to facilitate the process of group interaction and to manage how the content was captured during the group discussion, led each workshop. Either one or two additional researchers attended each workshop, observing the process and the participants' reactions, and assisting both the facilitator and the participants as necessary.

The methodology used is called JOURNEY Making (Eden and Ackermann, 1998), which is derived from JOint Understanding, Reflection and NEgotiation on strategY. As the name implies, its original use was for strategic planning. One of the intentions of this research was to establish whether it could be equally effective for knowledge management strategy. Using JOURNEY Making, the group members are facilitated through a process of

- *Joint Understanding* – the group members are encouraged to share their ideas with the rest of the group during a computer-supported group brainstorm (through typing their ideas on an issue into a computer package – they are asked to use no more than 8-10 words per idea).
- *Reflection* – asking the group members to integrate the ideas that have been shared into their own understanding of the issue i.e. asking them to reflect on their previously held views and reconsider these in the light of new information.
- *Negotiation* – giving the group members the opportunity to negotiate verbally on the different opinions which have been shared, in order to converge views and generate a

unified perspective of the situation, and generate shared commitment of all group members to the unified perspective to improve knowledge management.

- *Strategy* – potential processes for better knowledge management were identified throughout the group workshop. At the end of the workshop, and at suitable intervals during it, the group would review its progress– in order to confirm the importance of the processes selected. The processes would be agreed upon (and thereby committed to) by the group members (or a sub-section of group members who had responsibility for that issue).

The benefits of a JOURNEY Making workshop typically therefore fall into two categories; those relating to the content which is "surfaced", and those relating to the process in which the participants are involved. We offer three possible benefits here under each heading.

In relation to the content of the discussion:

- Giving the opportunity to contribute opinions and ideas
- The synthesis of diverging opinions – managing complexity
- Exploring and understanding the wider context of an option i.e. its feasibility for implementation

Similarly, in relation to the process undergone by the participants, three potential benefits are:

- "Substantive rationality" – the ability to demonstrate that the outcomes are based on solid reasoning
- "Procedural rationality" – participants perceive that the process of decision making is sensible
- Emotional and cognitive commitment of participants to the outcomes of the workshop

4.3   Four stages to considering knowledge management

The process the group members used considered knowledge management as an organisation-wide activity, even where the focus was a specific theme or project. The methodology described above was employed to give structure to the complexity of the issues under consideration.

We developed a generic four-stage process to guide the knowledge management workshops in order to achieve the research objectives stated earlier. Each stage builds on the previous stages.
- What knowledge informs [your company's] business?
- What processes are currently used in [your company] to acquire, share, retain and utilise knowledge?
- What processes should be used in [your company] to acquire, share, retain and utilise knowledge?
- How do you/should you evaluate how good [you are] at doing KM?

We trust the link to the project's objectives is apparent.

In the first stage, the group starts by considering "What knowledge informs our business?" The aim of this stage is to enable the participants to build a shared understanding of what knowledge they are actually referring to. The shared understanding built on this issue is the foundation on which the rest of the workshop is based.

In the second stage, the group considers "What knowledge management processes currently exist in our organisation?" This stage is further structured using a model of knowledge activities in terms of the acquisition, retention, sharing and utilisation of knowledge (Edwards, 1994). Participants consider each of these aspects of knowledge management in turn and so have the opportunity to share their opinions on each. This stage aims to give participants confidence that, however (in)formal or (in)effective they may be, they already have knowledge management processes in place in their organisation, and leads into the first part of a gap analysis, which continues with the third stage.

The third stage involves the group members considering "What knowledge management processes should exist in our organisation?" again in terms of the acquisition, retention, sharing and utilisation of knowledge. Through exploring this question, participants think about the types of knowledge management processes which the organisation should consider building. In conjunction with the discussion around the second stage, this facilitates the identification of gaps where an organisation should have a process in place, but in fact does not.

The fourth stage explores "How do we (or should we) evaluate how good these processes actually are?" This stage encourages the participants to reflect upon what metrics are used, and should be used to evaluate how effective the organisation's knowledge management processes are. The aim of this session is to refine the implementation of the knowledge management process, so that any data collection process which needs to be in place for these metrics can be integrated into the action plan for better knowledge management.

This four-stage process was designed to enable the organisations to consider knowledge management in a structured, yet very flexible, environment. Structure is given to the workshop through this series of questions, and through building the participants' shared understanding of the situation through brainstorming and group discussion. Flexibility is given through the participants being able to change the direction of the workshop during the workshop and through the sources of facilitated communication which are open to the participants.

5. Findings about the protocol

As mentioned above, participants were free to diverge from the stated agenda if they preferred. The first research question for each workshop was "What knowledge informs your business?" There was no objection to this "starting point" in any of the workshops, and indeed building up a solid common foundation proved highly necessary.

The second and third stages for each workshop focussed on the questions "What processes *are currently used* to acquire, share, retain and utilise knowledge?" and "What processes *should be used* to acquire, share, retain and utilise knowledge?" Stage four then considered "What measures are currently used, or should be used?"

In every one of the ten initial workshops, a discussion about what the rest of the agenda should be occurred - somewhere between the start of the second planned stage and the middle of the third. This lasted from 10 minutes to nearly an hour. (Note that this often involved part of the lunch break as well.) In the end, seven of the ten initial workshops continued to follow the proposed agenda closely. Two of the others showed only minor differences: MHT combined stages 3 and 4, while PF did stage 4 before stage 3. The greatest departure was in the DI workshop. In DI's case, the focus on a new computer system meant that they decided not to tackle stage 2, since there were no existing processes as such, but to concentrate on "should be"

processes (i.e. stage 3). This was split into two, first on processes to reduce duplication of effort and second on processes to meet customer needs better.

In eight of the nine workshops where the current processes were considered (the exception being PF), participants then divided the processes into three types:

- Those into which effort should be put in order to make them more effective
- Those which should be left as they were
- Those which should be used less/discouraged

Seven of the workshops attempted to classify the "should be" processes, using various combinations of the following attributes:

- Which could be implemented in the short-term, and which were long-term
- Which would produce a big payoff, and which a small one
- Which would require a great deal of resources to implement, and which would require few resources.

This was to help produce an action plan. The exceptions here were DI again, BS (who only prioritised once the actions themselves had been decided), and HA, who concentrated on actions relating to one specific topic.

The agenda of the various workshops then diverged somewhat towards the end of the day. Five workshops considered the action plan further in different ways, while two (NSB and PF) returned to one or more topics that had been only partly addressed earlier. In the case of NSB, half of the participants chose to leave at this point.

The original form of the outputs from each stage of the workshops was a map, like that shown in Figure 1. This represents the output of stage 2 for the RB workshop. It should be noted that this is a relatively simple map compared to many of those produced.

6. Findings about knowledge

The first question was "What knowledge informs your business?" Interestingly, none of the public sector and not-for-profit organisations objected to the term 'business' and clearly identified with it. While the researchers allowed the participants in each workshop to define the knowledge that was important to their business, most of the workshops discussed the difference between information and knowledge. The researchers, if asked, provided a simple definition of data as raw facts, information as organised data - data processed for a purpose but without interpretation, and knowledge as information that has been subject to some form of human processing – "information with certitude", as Haeckel puts it (Haeckel and Nolan, 1993) – although that phrase was deliberately not used in the workshops.

IC's director summarised knowledge as

> *some is factual, some is financial, some is rumour, some is gossip, some is intuition, some is guesswork, some is accidental discovery.*
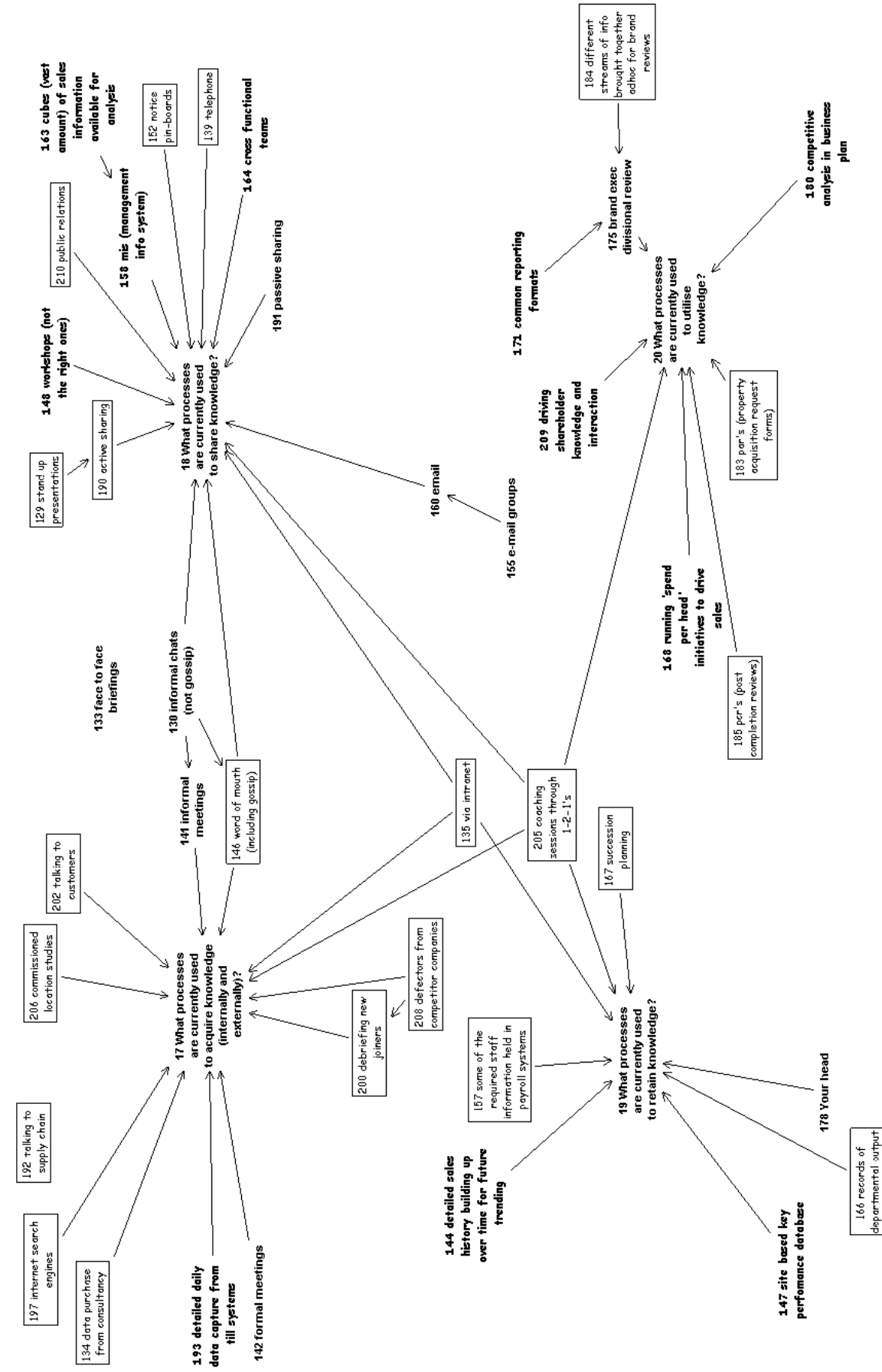
Figure 1: An example map from the RB workshop

BS was the only organisation to specifically address a definition of knowledge management in the context of their business. At the end of their workshop they had identified it as

> *Develop a framework to capture, retain, share and use our know-how in order to maintain [our corporate mission].*

On average, this stage of the workshops identified around 90 items of knowledge (range 59-117). The participants then clustered these, with the assistance of the facilitator. As might be expected, some clusters were very specific to one organisation, such as PF's largest cluster, which was around front-line policing, and HA's cluster around partnerships and networking. Others were more generally applicable, such as those relating to market knowledge or market intelligence (which appeared in some form in eight of the organisations' maps), and financial control and performance (which appeared explicitly in six of the maps).

On seeing the map from this stage, one participant from MI observed *"that looks just like the ISO9000 chart"*. Another replied *"yes, but it took 2 hours, not 15 weeks"*.

7. Findings about knowledge processes

The second and third research questions for each workshop were "What processes *are currently used* to acquire, share, retain and utilise knowledge?" and "What processes *should be used* to acquire, share, retain and utilise knowledge?" As mentioned above, all of the workshops considered each of these questions for at least one session, except for DI, where there were no current processes.

Although they had already seen the complexity of the maps produced in session 1, many participants were surprised at how numerous and complex the knowledge processes in their organisation were. On average, the maps contained 68 current knowledge management processes (range 47-100) and 54 "should be" processes (range 19-96). This is consistent with findings elsewhere. Coombs and Hull, for example, identified a total of over 130 knowledge management processes (some 80 of them distinct) in five units, all of them concerned with research and development (Coombs and Hull, 1998).

An issue which arose explicitly in the workshops for no fewer than seven of the organisations was getting the balance right between formal and informal processes. There was, however, no general agreement between organisations as to what the correct balance should be. Participants from BS, IC and PF said they wanted more formal processes, including the formalisation of some existing informal processes. RDA, by contrast, had already gone some way down this route and were not entirely happy about it. RDA's processes included obtaining information and knowledge from technical papers, meetings, industry committees, networking, trade shows and databases. However more formal processes had replaced informal ones such that *information doesn't get shared as well"*.

MHT's workshop had an extensive debate about the use of informal channels, named "random bumpings" by one participant. Three views expressed were:

> *"They're not working if they're stood around the coffee machine."*
> *"I think you should encourage it. In a formal meeting you don't say what you might informally."*
> *"We [one division] haven't got a coffee machine!"*

Question 2 in HA's workshop produced little evidence of informal knowledge management processes being currently in use. However, the question 3 discussion producing telling comments from two of the participants: *"we know more about what's going on in [region A] than [region B] because we're in the same building"* and *"you had to work harder to get the information in [location of region B's head office]"*. Not surprisingly, one of the "should be" processes that they recommended was to centralise on a single location.

One of the principal patterns that emerged from the workshops related to the major clusters of "should be" processes identified. These clusters revealed three broad emphases in the "solutions" proposed by participants:

- Technological solutions. These were predominant in DI, PF and RB.
- People solutions. These dominated BS, HA, IC, MHT and RDA.
- Process solutions. These were emphasised in MI and NSB.

The technological solutions were concerned largely with making better use of databases and Intranet access. At the extreme, RB's entailed standardising technology over hundreds of sites leading to a single source of knowledge with *"cubes of sales information for analysis by cross-functional teams"*. DI argued for the need to reduce duplication by eliminating "satellite" IT systems. PF went further, and identified "privately owned" personal organisers and laptops as a barrier to sharing information and knowledge.

People solutions were concerned with staff retention and motivation, training and networking. MHT identified the need to rely less on "training through osmosis". IC emphasised activities such as partnerships, training, networking, debriefing and team working. RDA thought the processes should involve removing their previous "culture of confidentiality".

Process solutions were concerned partly with paper-based specifications and process instructions but also with the mix between formal and informal methods of sharing knowledge. MI were very concerned about passing on skills. NSB wanted a substantial change of direction; reduced effort on compliance and more emphasis on educating the organisations it regulated. There was also an emphasis on "working smarter"; achieving process efficiency in order to cope despite people leaving over the next two years. Although most of their preferred "solutions" were in the "people" category, IC also suggested the creation of a "knowledge map" - a clear structure of information to enable easy retrieval.

At present we can offer no systematic contingency explanation for these different "solutions". Clearly the type of organisation (listed, privately owned, public sector or not-for-profit), type of business (retail, manufacturing, design/installation, service) and structure (centralised, decentralised, single site, multi-site) undoubtedly influenced the clusters. However there appears to be no relationship between the type of organisation and its preferred knowledge process "solution". The latter seems to be more a consequence of the unique history and circumstances of each organisation.

In almost all of the workshops, participants experienced difficulty in these sessions in identifying processes and tended to focus on mechanisms. For example, they would easily offer "reports", but often have trouble in making the link to precisely which reports and exactly what is, or should be, done as a result of receiving them. One participant in PF commented that *"we have mediums, not processes to communicate information"*, while another added, *"because there are so many [mechanisms] people ignore all of them"*.

8. Findings about knowledge metrics/evaluation

The fourth research question was "What metrics are currently used, or should be used, in relation to the acquisition, sharing, retention and utilisation of knowledge?" All organisations except MHT discussed this topic explicitly in one form or another. Again, many measures/metrics were contributed (an average of 53). Interestingly, the range was much smaller than for other questions: 43-70.

Significantly, the great majority of metrics suggested were measures of organisational performance as a whole, such as KPIs (Key Performance Indicators). They were thus *indirect* measures of the effectiveness of knowledge management processes. Naturally these included quantitative financial measures. The ultimate measure, according to RB was

> *top-down, from the share price ... each brand has to achieve 10% per annum sales growth and 5% per annum profit growth if they are to be retained..*

BS linked their measures explicitly to their corporate objectives. Other quantitative measures included detection rates (for PF) and scrap/rework trends for MHT.

At the other end of the spectrum, staff retention featured explicitly as a major element in assessing the effectiveness of knowledge management processes in five of the organisations, and arose implicitly in others. Other "softer" measures included corporate "pedigree" or industry standing for RDA and influencing the regulatory agenda for HA.

Organisation-specific emphases were again present, such as that of DI on measuring the reduction in duplication of effort, and of IC on bids for consulting work (number, quality, win ratio, response time, the efficiency of bid production).

9. Other findings

A key finding from the action plans was that some form of knowledge champion role was vital to most of the organisations. BS identified the need for a "knowledge broker". RB identified the need for "buy in from the top down" and the need for a "knowledge champion" to facilitate the process of communicating knowledge. Similarly, MHT identified the need to appoint a "champion". Although PF made no mention of a champion, the workshop sponsor had recently been appointed to develop a communications strategy and could be considered to be PF's champion. DI identified the need for a "champion of MIS" as the absence of this co-ordination function led to a lack of focus. To HA, the need was for a "change champion". MI's Managing Director, who sponsored that organisation's workshop, appeared to be functioning in the role of knowledge champion already.

There was a general realisation by participants that knowledge management is not just for managers. Three of the workshops (MI, NSB and PF) included participants at or near operational level, and all but one of the other organisations expressed the feeling that they needed more "grass roots" input to the design of effective knowledge management processes.

10. "Conclusions"

The JOURNEY Making methodology appears to be effective in terms of surfacing ideas and producing action plans for knowledge management. Reactions of the participants were very positive - responses to "I thought that the process was useful in helping us to explore KM" averaged 1.46 on a 5-point scale (where 1 = Strongly Agree and 5= Strongly Disagree, n=67).

The presence of some form of knowledge champion role appears to be crucial.

The most important difference between organisations seems to be the point they have reached in the "KM life cycle" of that organisation. Some of the organisations (such as RB and RDA) had been thinking about knowledge management for years; by contrast others (including HA and MI) were completely new to it. Relatively little emphasis has been placed on this concept in the knowledge management literature so far.

The preferred actions clustered into three different types: technological solutions, people solutions, and process solutions. There was also a different emphasis in the treatment of external (environmental) and internal sources of knowledge, although each organisation faced pressures in dealing with both. For external information, there was a particular need for summarising, abstracting and disseminating knowledge – an essentially people-based process. Internal knowledge processes were either technology-based, using databases and Intranets more effectively, or process-based, involving better manual documentation of procedures, or finding the right balance between formal and informal internal communications.

The most obvious limitations of this work are that only 10 organisations have been involved so far, and that only organisations (and generally people) with some interest in KM took part. The latter is demonstrated by the response to "I think that Knowledge Management is an important issue in [company name]", which averaged 1.36 on a 5-point scale (where 1 = Strongly Agree and 5= Strongly Disagree, n=67). Whether the process would work with those who are sceptical about knowledge management, or downright hostile towards it, remains to be seen.

In the future, we intend to carry out further analysis of the data (maps, process, participant feedback) to achieve the project objectives. We also intend to run a second series of workshops, and if possible to revisit these ten organisations to see what has happened as a result of the workshops.

Acknowledgement

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