

Knowledge Management

Who should read this fact sheet ?

Novices to knowledge management or those with a basic to intermediate grasp of the topic should find this fact sheet useful. Managers in small to medium-sized businesses could find some ideas for using knowledge management to boost competitive advantage.

What is knowledge management?

Knowledge Management (KM) describes the processes which can enable an organisation to exploit the knowledge and learning of its people. This can result in increased efficiency in project implementation, reductions in wasteful costs, greater innovation and more success in winning new business.

The benefits of good knowledge management

Through KM the vital lessons and insights that are usually locked up in peoples' heads can be made available for others. For example managers and engineers who are facing unfamiliar environments and problems can be better primed and prepared. Of course there is no substitute for direct experience, but with effective knowledge management, people do not need to go through the same painful learning as their colleagues or predecessors. They will not need to repeat the same mistakes and re-invent the same "work-arounds" and rules of thumb.

The basics of knowledge management

Knowledge is not simply information. To have knowledge about something involves the ability to judge and interpret rather than just having been told about it.

Knowledge is typically accumulated through experience or education, but there are management routines and techniques to help people share what they know. Knowledge also comes in different types:

- explicit knowledge – is easily communicated or written down
- tacit knowledge – is held in peoples' heads and is difficult to pass on.

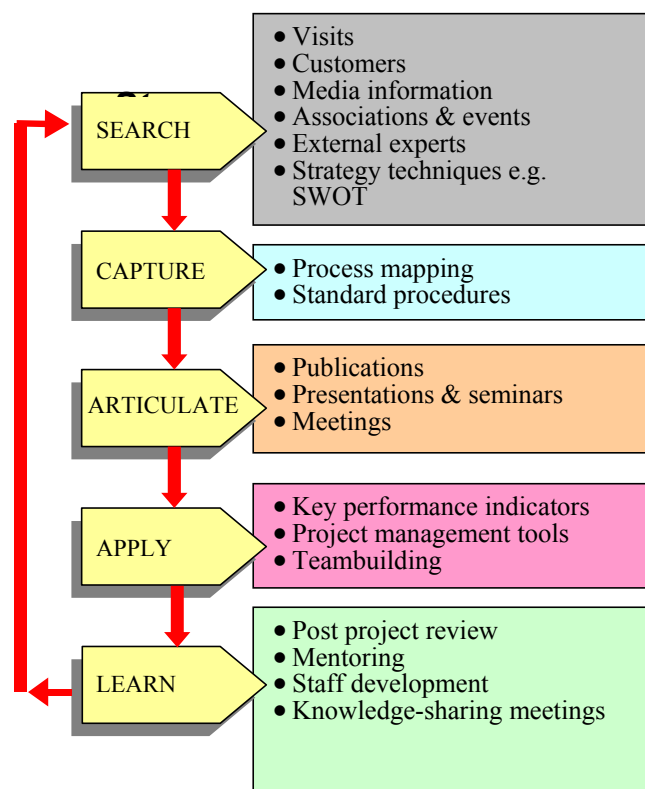
Tacit knowledge is often the most crucial, because it can form a distinct competitive advantage over competitors. It is much more personal and cannot be easily picked up and

imitated by your rivals. By contrast, explicit knowledge can be easily assimilated, distributed, or simply copied and taken away. To be transferred, tacit knowledge requires person-to-person contact or individual learning and experience.

Knowledge management is fashionable and many tools, publications and events are available. It is a difficult and time-consuming task to filter through them to assess what is genuinely useful. This is particularly so for smaller firms with limited time and resources.

However, managing knowledge does not have to be an arduous task. Many of the activities and systems that contribute to knowledge management could well be in place already and it is worth evaluating how existing tools and activities are helping to create and exploit knowledge. The diagram below shows how this analysis could be simply achieved.

The diagram above shows how activities can be



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organised into five stages to provide a framework for a knowledge management process:

- **Search:** seek out explicit and tacit knowledge internally and externally.
- **Capture:** record the principles and core thinking of ideas and new knowledge.
- **Articulate:** make the tacit knowledge explicit and communicate throughout the organisation by means of presentations, meetings, working papers or reports.
- **Apply:** harness the knowledge to address business problems, in particular by using project management tools and resources.
- **Learn:** reflect on the process, review the experience and assess which parts of the process could be better managed.

In practice, the process of knowledge creation moves forward and backward through these stages in an iterative, rather than cyclical way. At any one time you would expect some activity to be on going in each of these stages.

Building capability in knowledge management

Typically you will find that your organisation is already engaging in routines and activities that are managing organisational knowledge. These may include those mentioned above. It can also be useful to think in terms of building capability. Some tools and practices are easy and inexpensive, while others are more sophisticated, elaborate and may be inappropriate.

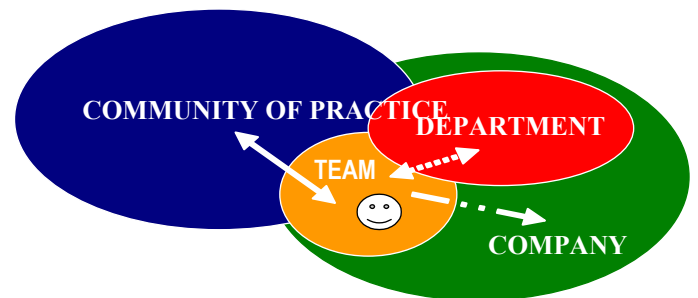
Typical next steps to lead knowledge management on from the sources, tools and activities outlined above are:

- Intranets
- Electronics links between sites
- Experimenting with Extranets
- Continuous Improvement routines
- Links with Universities and research institutes
- Computerised documentation systems

Knowledge management in a project-based environment

Knowledge management in project-based firms, which are typical in industries like construction, is a particular challenge. There may be difficulties in project-to-project (P2P) knowledge transfer, as well as project-to-business (P2B) transfer.

P2P difficulties are caused by the discontinuities between projects and the teams that work on them. Any new knowledge created through the course of construction on a specific site or in designing a specific building, may be simply lost or forgotten when the contract is completed and the team dispersed. There is rarely the time and space to ensure that the lessons of a project are genuinely learned by the organisation at large. Scheduling and business pressures often



Knowledge transfer in a project-based environment

dictate that people are immediately redeployed on fresh projects and are quickly engrossed in new problems.

The P2B difficulty involves the distance between the projects and the central organisation of the firm. This distance is not only geographic, but may be to do with culture and identity. *Ad hoc* organisations that are put together for projects have a different purpose and atmosphere to the firm's central headquarters and services.

A typical effect of project-based organisations is a stronger connection with the project partners than with the project team's own business. "Communities of practice" may arise in the project despite cross-functional or even cross-business differences and these are often stronger routes for transferring knowledge than departments or companies.

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Key Management Issues

- Knowledge management is concerned with much more than information technology solutions. Technology may certainly form part of a knowledge management system but it is important to recognise that much critical knowledge resides in people and is not easily transferred into information systems. To share and use tacit knowledge requires people-oriented activities and techniques such as mentoring, knowledge-sharing meetings, technical communities and networking.
- People need incentives to share knowledge. The availability of a system will not mean people will submit material to it, nor access the material that is already contained there. Many corporate cultures implicitly support the view that knowledge is power and give individuals incentives to hoard knowledge. Culture is difficult to change but pragmatic measures can reward knowledge sharing, rather than discouraging it.
- Knowledge management does involve some cost, not necessarily through purchase but often in management time and diversion from mainstream activities. These costs, however, should be considered against the real business benefits gained over time, and the opportunities spurned by not managing knowledge.

Key Tools

One of the best-known and widely used mechanisms to promote learning in organisations is the post-project review. This can be seen as routine but with a structured template to guide the process it can be extremely effective. Key features of successful reviews are that they:

- identify problems with the project in a non-personal way, so that people will not feel exposed to a “witch-hunt”
- use devices to jog memories such as video or project diaries
- ensure actions are identified from the review and that they are quickly implemented.

Process mapping is a simple and effective technique for understanding a business, involves building a graphical picture of practices and procedures either as the organisation currently works, or a desired system. Visualising processes in this way helps to identify “hot spots”: problem areas where improvements can be made.

Knowledge Creation and Innovation

Another aspect of knowledge management is a close relationship with innovation. The current vogue, “knowledge creation” is in essence a new term for innovation. In the current era of uncertainty and rapid change, companies need to innovate to survive and prosper. Innovation includes the introduction of new services and products to clients, but also the adoption of new business processes to speed up the fulfilment of contracts and ensure that waste is minimised. These management ideas have proven effective in industrial sectors such as automobiles and electronics, and the construction sector has been urged to translate them into the language of architecture, design and building. Many companies have responded to this challenge and have developed a competitive advantage over those that merely repeat the “same-old, same-old”. The intensity of competition, particularly from overseas, and the challenge set out by Egan means that this is no longer sufficient.

In fact, in the construction sector, the need to innovate is especially acute. Because no two construction projects are ever identical, construction firms need to cope with new situations and challenges as an everyday task. Knowledge Management (KM) is vital for successful innovation.

Next Steps

- Use the matrix to start to assess your current knowledge management capability.
- Case studies covering knowledge management in different organisations are available (download from www.cbpp.org.uk or contact our Helpdesk to request copies).
- Information about other resources related to Knowledge Management are available through our on-line Resource Centre at www.constructingexcellence.org.uk.