

Overview of knowledge management



Introduction

The aim of this paper is to provide an overview of the current thinking and practices within the body of knowledge called Knowledge Management (KM). It is not intended to be exhaustive or detailed, but to outline the major concepts and models within the area.

For organizations embarking on a KM initiative, there are a number of steps which need to address initiative. The list is not exhaustive, but the ideas form the basis of investigation and discussion on the topic.

What is KM?

Some definitions are:

- KM is the leverage and reuse of resources that already exist in the organization so that people can access expertise or experience rather than reinventing it. [Wah, 1999]
- KM means a systematic and organised attempt to use knowledge within an organization to transform its ability to store and use knowledge to improve performance. [KPMG, 1998]
- KM is the strategy and processes to enable the creation and flow of relevant knowledge throughout the business to create organizational, customer and consumer value. [David Smith, Unilever, undated]
- KM often encompasses identifying and mapping intellectual assets within the organization, generating new knowledge for competitive advantage within the organization, making vast amounts of corporate information accessible, sharing of best practices, and technology that enables all of the above – including groupware and intranets. [Knowledge Praxis website, 2000]

In summary, the key concepts of KM are identifying relevant knowledge, then capturing, storing, distributing and using it in such a way that it creates value. KM is about adding value to information by filtering, synthesising and summarising it and helping people get at the kind of information they need in their work.

What is knowledge?

There is some debate on what the “stuff” actually is, but the following schema is well accepted:

- Data are observations and facts without context, eg, a printout of a payroll.
- Information is data within context, eg, an analysis of the distribution of overtime by job level.
- Knowledge is a meaningfully organised accumulation of information, ie, many pieces of information are structured in such a way that they provide insight into a situation, eg, a client file or the notes of a debriefing session with supporting documentation.

In addition, there are two other ways of thinking of knowledge. It can be a thing to be stored and manipulated – an object – and it can be a process of knowing and acting – expertise. Organizations need to manage knowledge both as object and as process [Zack 1999]. Take Microsoft’s on-line

knowledge base as an example. The actual database is an object that people can explore and use. The way it has been developed – and continues to develop through use – is the process of knowing and acting. Expertise is developed by users who in turn contribute more expertise to the knowledge base.

Another well-quoted framework [Polyani, 1966] is to think of knowledge as tacit (implicit, in someone's head, informal) or explicit (openly shared, held in a public place, formal).

Given these concepts, one of the major issues of KM is making tacit knowledge explicit – sharing and reapplying knowledge that was once in someone's head. To do this, an organization needs to determine which knowledge should be made explicit and which should be left implicit, eg, McDonalds gained leverage by articulating and standardising hamburger making. When imagination and flexibility are important, knowledge standardisation may be inappropriate.

Knowledge management strategies

A robust model [Hansen, Nohria, Tierney, 1999] for conceptualising the various ways of approaching KM is:

- **Codification** – a people-documents-people approach. Knowledge is extracted from a person to a document where it is accessed by other people for reuse. This approach usually requires sophisticated and dedicated software support.
- **Personalisation** – a people-people approach. People access people networks or communities of interest, often through a “people finder” database.

Svieby, a recognised guru in the area, makes the same distinctions but calls them IT-track or people-track KM.

Using an organizational example to explain these concepts, employees making decisions about insurance claims would benefit from a codified database to assist them in their simple assessments. Policy creators or advisors would benefit from a personalised, networked approach when developing new ideas.

Hansen, Nahria and Tierney claim that the strategy an organization adopts depends on its competitive or economic drivers. Where the organization has a re-use driver, it will tend to a codification strategy. Where the driver is expertise or individual value-added, the personalisation strategy is most appropriate. They provide the following examples based on consulting organizations:

- Ernst & Young focuses on generating large overall revenues by employing relatively recent graduates who reuse a knowledge asset many times. (Reuse driver)
- McKinsey focuses on maintaining high profit margins by employing experienced staff who charge high fees for highly customised solutions to unique problems. (Expert driver)

Effective firms focus on one of the strategies, using the other in a supporting role. There is usually an 80/20 split – 80% of knowledge sharing uses one method – 20% the other. The chosen strategy will shape the type of people employed and how they are managed and rewarded. For example:

- codification organizations reward contribution to and usage of the knowledge asset
- personalisation organizations reward how much direct help one colleague gives to another.

Most times, simple documents cannot convey the richness of an idea such as the context of knowledge or the logic that was applied to a decision. However, making a document more complex may cause a flood of callers asking for basic information.

The strategic choice depends on whether products and services:

- are standardised or customised
- are mature or innovative
- rely on explicit or implicit knowledge to solve problems.

Knowledge repositories

Knowledge repositories are usually databases. They should include:

- Meaningful concepts, categories and definitions (declarative knowledge). There should also be clear definitions of what is in and out of the repository.
- Processes, actions and sequences of events (procedural knowledge).
- Rationale for actions and conclusions (causal knowledge).
- Circumstances and intentions of knowledge development and application (specific contextual knowledge).
- Links amongst these various types.

A key challenge is indexing the repository so that knowledge is accessible - people should be able to find things quickly, easily and intuitively. The KPMG report gives some interesting examples of time taken to locate knowledge. The repository structure must reflect the structure of shared mental models – or how the world is understood in an organization. The ability to integrate and share knowledge effectively depends on some broadly meaningful scheme for its structure.

Once built, repositories don't look after themselves. They have a life cycle that must be managed. Over time, content will require reorganization and editing. Also the usefulness and datedness of items needs to be re-evaluated.

For personalisation KM, the repository is a by-product of interaction – not the primary focus. Applications tend to focus on knowledge brokering where people:

- seek and search for contacts or experts, or
- advertise their expertise, or
- share ideas in a discussion forum and where the emphasis is on connecting up with experts.

Examples are employee yellow pages – who knows what and where are they - and also Lotus Notes discussion sessions/spaces.

KM roles

When establishing KM, a key consideration is how the initiative will be managed in an ongoing way. The following roles or functions may need to be addressed:

- Chief Knowledge Officer – responsible for KM architecture.

- Knowledge Expertise Centers – championing KM, educating the organization, mapping knowledge, and integrating organizational and technological resources critical to KM architecture.
- For codified repositories, knowledge creators, finders and collectors (often subject matter experts functioning as an editor of content and context) and possibly interviewers and transcribers. Documenting observed experiences requires organizational reporters. A librarian or “knowledge curator” must manage the repository. Others must take responsibility for access, distribution and presentation. A repository may also require trainers to teach users how to interpret, evaluate and adapt knowledge to new contexts.
- Where person-to-person support applications are used, roles need to focus on encouraging and managing participation and moderating on-line discussions.

Along with assigned roles, dedicated budgets also need to be considered.

Organizational culture considerations

The ongoing challenge of KM is to create environments where people readily share what they know. Research indicates that the most important factor in implementing effective KM is the openness and trust of management. Managers must also make time to create and share knowledge and provide rewards for investing in knowledge. For example, they must recognise:

- the time and effort taken to share knowledge.
- when one person uses another’s knowledge to advantage.
- those who facilitate sharing.

However, knowledge is power – which ultimately means increased pay or job security to most employees– so there must be a concerted effort to encourage people to share. Also, there must be no negative consequences of sharing. The ideal is to make heroes of staff who share and don’t hoard.

A personalisation KM strategy is ultimately about the ability of an organization’s workforce to innovate and to build environments conducive to creating new knowledge. Sveiby says “Investment along the People-Track [personalisation strategy] involves investing in people, recruitment, the office environment, etc. The bandwidth of the human infrastructure is the trust between people and between management and employees. Human bandwidth is about people meeting each other, about dialogue, about environments without fear.”

The implications for KM reach as far as selecting people who have demonstrated collaboration and teamwork, and people who are good at learning and teaching. Davenport, another respected guru, says that not enough companies have built into their competency models how well people learn and pass on their knowledge informally on the job.

Knowledge sharing happens only when social norms support it. One way of doing this is to offer incentives. Some organizations include demonstration of collaboration in performance review criteria and in their remuneration packages.

A key issue in creating a sharing culture is that even if employees want to share knowledge, many times they do not have time to do it. Creating emotional, social and physical environments that make time and space for sharing is critical.

Another way of making knowledge sharing common practice is to make it a standard or procedural part of work. In other words, entering information or knowledge into a database, or debriefing with colleagues at the close of a file or at the completion of a project is a mandatory, not elective, part of

everyone's job. However, workloads and cycle times may need to be adjusted to allow time for sharing.

Knowledge communities

There are many examples of organizations that have used the personalisation strategy and which have encouraged communities of interest or communities of practice. [Moore & Birkinshaw 1998, Storck & Hill, 2000, Wengen & Snyder, 2000]

These communities are groups of people informally bound by shared expertise and interest. They may be virtual or meet face-to-face. When internal to the organization (they can span organizational boundaries, eg, professional interest groups), they are usually a bottom-up initiative but they still require management support. They are fundamentally informal and self-organising but benefit from cultivation.

Communities of interest (Ernst & Young have termed them COINs) can:

- help drive strategy
- start new lines of business
- solve problems quickly
- transfer best practice
- develop professional skills, and
- help recruit and retain talent with the organization.

To initiate and maintain them, managers should:

- identify the communities that will enhance the organization's strategic capabilities.
- provide support infrastructure (sponsors, administration or technical support teams, time to meet, salary offsets, appropriate rewards, etc).
- evaluate them using non-traditional methods because effects are often delayed; results are evident in the business not in the community; and the question needs to be asked whether the great idea would have happened anyway.

The impact of KM on staff retention

Ideally, staff retention strategy should be a subsidiary consideration once an organization's KM strategy is developed. In some cases, the lack of ability to keep staff or the sudden loss of experienced staff may force an organization to review its KM practices. While staff retention may be the trigger to review KM, it should not be the driver which determines KM strategy.

Retention hot spots may create some KM priorities, ie, area x has the highest turnover so that is where we will start. However, it is worth considering that once an effective KM strategy is fully operational, retention may not be an issue, ie, KM processes can be specifically designed so that they are effective with any level of turnover.

Implementation steps

These are some of the next steps or issues that an organization needs to consider before implementing a KM strategy.

1. Determine what knowledge management strategy it should pursue, ie, codification or personalisation. This will require understanding the economic and policy drivers on the

organization and understanding which knowledge assets create the most added value -, which knowledge assets create better customer service, faster product development or increased sales.

2. Collect information about knowledge assets:

- what does the organization currently know and what does it need to know to operate (to deliver its core business)? This is likely vary between functions and locations.
- where is this knowledge currently held – in people, databases, procedures, files, etc? There are likely to be numerous discussion forums and databases in existence now. However, it is likely that few of them will be linked; that there will be little or no integrative structure; and that they cannot be used by novices. In other words, no single person in the organization knows about all the organizations knowledge repositories.
- who uses the assets and how? This could be a matrix which shows the knowledge asset, the jobs/functions that use it, the reason they use it and the importance to the job.

3. Consider what needs to be changed in the corporate culture and how this will be done.

4. Identify the gaps between the desired strategy and current practice and create an action plan.

5. Make someone responsible for implementing the strategy. What budget will they have to do this?

6. Consider making “sharing knowledge” a core value of the organization but consider how will this be reflected in recruitment, promotion and performance management activities.

7. Given the KM strategy decision, consider the likely impact on key positions that help generate or use knowledge repositories. For example, will an effective repository balance high turnover in key areas, or which employees must be retained to make a KM process work?

References

This is not an exhaustive list – it is only the quoted references for this white paper. Excellent websites that hold a great deal of information and have many links are www.brint.com/km, www.kmworld.com. www.cio.com/research/knowledge and www.kmexcellence.com/km.

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