

Dynamic Knowledge Systems

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1. Introduction: KM Systems Today

Knowledge Management has reached a turning point in its evolution. Companies, convinced of the inherent business value, are now focusing on the dual problems of how to successfully implement KM, and how to choose from the bewildering array of solutions offered by consultants and vendors alike, many of whom have made the 'easy' transition from being data management companies to being 'knowledge' companies.

So with the wide array of solutions available today, how come knowledge management efforts still fail so often? According to David Snowden of the IBM Institute of Knowledge Management, a full 80% of KM initiatives in the US are deemed to have failed.

Although many reasons have been postulated, few are as important as making sure that you understand how knowledge is used and created in your organization, and making sure that you have a balanced knowledge system portfolio that not only captures, stores, and disseminates your corporate knowledge, but also allows opportunity for the creation of new knowledge.

2. Unbalanced Knowledge Management

Why do current Knowledge Management (KM) systems find it so hard to achieve solid Return-On-Investment (ROI)? And why is it that so many KM success stories revolve around the impromptu, unofficial applications of technology by informal Communities of Practice?

In order to take a fully balanced approach to building a comprehensive and successful KM system, you have to take several factors into account. What is the knowledge that you're trying to collect? What form is it in? What are you trying to do with the knowledge? When are you planning to use it? How are you planning to use it? These are all questions that are frequently forgotten by the KM practitioner – and by most KM vendors who, for the sake of simplicity, generally push a one-size fits all approach to KM. Unfortunately, these tend to be very one-sided solutions as KM vendors tend to ignore the harder elements of KM in favor of the elements that their software can do well – that of data

collection, storage, and manipulation. However, it is well documented by many influential KM thought leaders that it is the human side of the equation that has the biggest potential for yielding the solid results that executives are looking for from KM systems.

In fact, KM has long been plagued by its inability to show unambiguous metrics that can demonstrate a solid monetary return to boardroom executives without using assumptions that generally range from the subjective to pure fantasy. This is not to say that benefits don't accrue – but the reality is that the vast majority of 'traditional' KM systems and programs revolve around the achievement of intangible benefits. Whilst those benefits can make all the difference between winning and losing in the knowledge economy, the purse string holders still want to see visible results of their money being well spent.

The benefit of the human element can best be seen by looking at KM systems and processes which revolve around the seemingly fabled entities that are "Communities of Practice". Communities of Practice (CoPs) are informal groups of practitioners, experts, and other interested parties who trust each other to provide relevant and accurate knowledge as and when needed. KM experts and IT vendors have been quick to jump on this concept and a huge industry has been built around trying to artificially create CoPs, formalize them, or else support these groups and individual practitioners through the use of knowledge repositories and other KM tools.

The two approaches are different in many ways – and it has become hard for companies to fully understand what they are dealing with because more often than not the two approaches come under the same over-reaching label: Knowledge Management. As a result, companies choose one or another and find themselves missing half the equation of what is in reality a symbiotic relationship between the main types. Let's take a closer look.

3. A Closer Look at KM System Types

We can divide knowledge systems into 3 main types: Informational Knowledge Systems, Knowledge Management Tools, and Dynamic Knowledge Systems¹. Let's have a closer look at each type.

Informational Knowledge Systems (IKS) typically store, manage, and knowledge on a 'just in case it's needed' basis. There is usually no immediate need for the knowledge being 'harvested', which is usually deemed to be useful by somebody and placed in a

¹ These concepts were explored in "*Dynamic Knowledge Systems*", B. Pluskowski, Knowledge Management Magazine, Ark Group, London, May 2002, www.kmmagazine.com.

repository in the hope that someone else can find it and use it at some time in the future to save time or effort (and therefore money). Typical examples of this include Case Study or Experience databases, Best Practice databases, and Expert Directories.

This type of system emphasizes the learning element, with value usually based on knowledge re-use, better preparation and decision making ability through learned successes and mistakes, and the benefits of saved time through the lack of re-inventing the wheel.

As a result of this emphasis, IKS' also have a tendency to discourage creativity and thought expansion to problem solutions beyond the limits of the existing knowledge. This is because users are encouraged to use the existing solution rather than consider alternatives. This process is more risk-adverse, and may deny the firm any chance of innovation in their processes and improving on what already exists.

Knowledge Management Tools (KMT) have the main aim of simplifying access or providing direction to the knowledge and information within KM systems, in a timely manner by reducing the quantity of information available to the user. The tool will typically decide upon what is relevant for the individual user based upon a user request or profile. They act like a lens onto other KM systems, giving the user a better perspective as to what knowledge he is looking for and where he can find it. Typical examples include search tools, portal applications, and other information or knowledge filtering tools.

These tools do not follow the virtuous circle of knowledge management – create, capture, store, and share – but rather act as data manipulators – taking information and knowledge that is already stored and using it to answer questions, stimulate insight, and even predict the location of as yet unavailable knowledge.

These tools are frequently mislabeled as knowledge creators. A tool cannot create knowledge; it can only present data in such a way as to stimulate the insight and knowledge creation in someone who has the knowledge and ability to interpret what they see.

Dynamic Knowledge Systems (DKS) are systems which elicit on-demand, in-context, timely, and relevant information and knowledge from people when it is needed by somebody else. It is usually produced in response to an identified need, problem, or challenge that has been made explicit and made available to a group – and is typically presented with an action-focused contribution.

DKS' put an equal emphasis on both the sharing of existing knowledge and the creation of new knowledge. Typical examples of this kind of system include informal CoP discussion databases, Idea Management systems, and to an extent, KM helpdesks and certain types of focused collaboration tools.

DKS' tend to rely on elements of interaction in the knowledge sharing process that is absent in other types of knowledge systems. As a result of the interaction, knowledge is not just captured, but frequently built on, improved, and challenged. This leads to the increased creation of new knowledge and innovation. In addition, due to the problem solving format of DKS', the output is knowledge that is in an actionable format, in contrast to the learning format of IKS.

4. Return on Investment

In both IKS and KMT, ROI tends to be measured using ratios and metric systems which try to quantify the intangible nature of the benefits achieved such as time/effort saved, increased employee happiness or ease of use. However, these methods are unreliable and subjective as a whole.

How do you know how much time was saved using a search tool? How much "better" are the decisions of knowledge-enabled employees? It is just as possible that a user might have come up with an equally, if not more effective solution to a problem if they hadn't looked at the Best Practices database.

This is not to say that these KM systems have no value – far from it. They are critical components of an effective KM infrastructure. However, practitioners are shooting themselves in the foot if they start by implementing systems with hard-to-see benefits as their initial foray into knowledge management.

Companies and IT vendors need to take into account what makes the knowledge they are collecting useful, and how it is best used. In short, knowledge becomes useful when it fulfills an identified need, and it is best used when provided on demand.

The knowledge provided and created is dynamically produced in response to an identified and timely problem. Therefore the ROI for DKS' can usually be far more easily quantified using standard accounting and tracking methods instead of derivative methods that rely on the multiple 'assumptions'. This type of approach can even show hard dollar benefits in the form of new products, process improvements, and cost savings.

This change in focus to more visible benefits that are easily understandable, especially to senior board members, makes this a no-brainer investment for most corporations. Yet most companies have overlooked this type of system, usually because Dynamic Knowledge Systems - especially informal CoPs – are generally thought to be hard to implement due to the trust-reliant nature and complexity of the relationships within these systems. As a result companies have been throwing their money at the Informational Systems that support the individuals participating in these systems, instead of trying to figure a way to have the corporate entity exploit the underlying processes that make these systems so successful.

5. Building a Balanced KM System

Successful KM systems rely on an equal balance between the three KM System components:

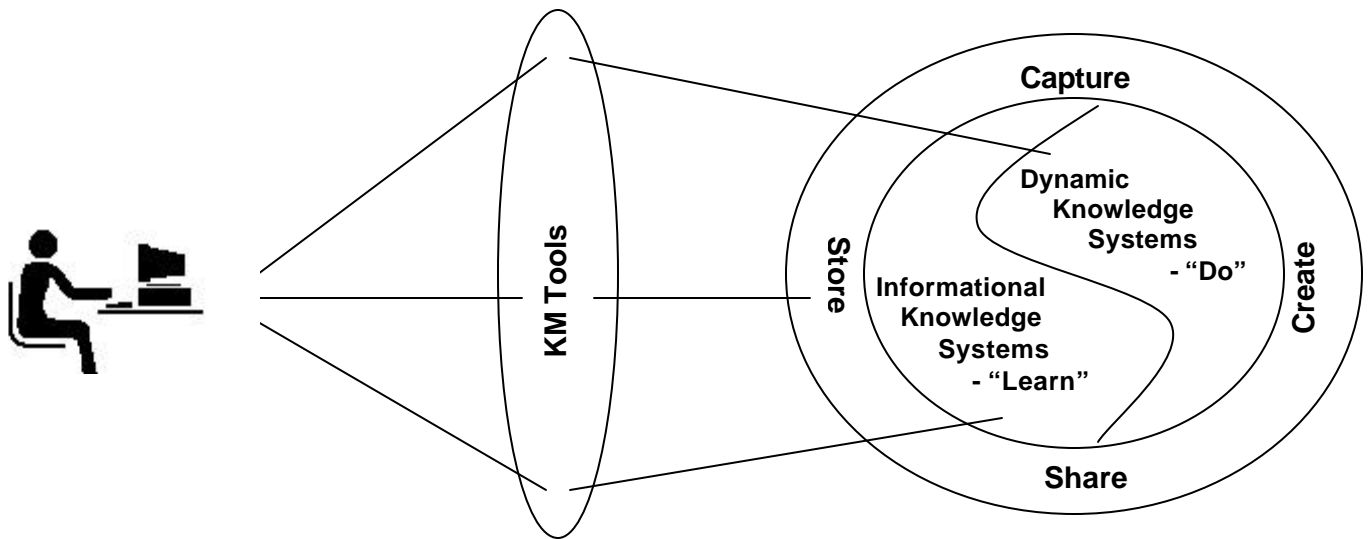


Fig.1: A Balanced KM System

An equal balance will give a company the ability to not only learn from its previous experience and resident knowledge – but will also to challenge, build, and innovate around that knowledge to gain competitive advantage. Unbalanced systems suffer from various unintended consequences:

- A system low on the Informational components is able to innovate, but never learns from its successes and failures, resulting in a directionless innovation process.

- A system with no KM tools is fully functional in terms of learning and innovation capabilities, but it is unable to take advantage as they lack the navigation, discovery, and knowledge enhancing capabilities offered by those tools.
- A system low on the Dynamic components learns from past mistakes but does not have the ability to innovate beyond its existing knowledge. It lacks the challenge and action orientation necessary to stimulate the innovation. This is the most typical imbalance in today's knowledge environments.

6. Idea Management –a Dynamic KM System

Idea Management systems have been around for over 100 years in the form of stodgy old corporate suggestion box² - yet recent advances in technology, and far more importantly, understandings of the underlying processes have rejuvenated this into a must-have corporate tool. A tool that early adopter companies are using to realize big benefits - and a tool which analysts have recently been touting as being able to "rescue knowledge management from oblivion".

Quite simply, it turns the CoP discussion system on its head. In a CoP system, questions are posed from one practitioner to other practitioners within a trusted circle. In an Idea Management system, the corporation takes the place of the asking practitioner, asking instead its trusted employees for timely and creative solutions to its current problems or "challenges" – solutions and results that are not only trackable, but are also aligned to the corporate strategy. Because the knowledge is collected in response to an identified problem, tracking the results can be as easy as saying, "did it solve the problem?" – if yes, then a positive result ensues. For example, challenges based around getting your employees to help you cut costs yields ROI in the form of measurable cost savings, and challenges focused at new product or marketing ideas can yield ROI in the form of new revenue streams. How many other current KM systems can point to this type of easily attributable return on to the bottom line?

However, you have to be careful. Ideas cannot be forced out of people – they need to be volunteered. In the same way that knowledge sharing flourishes in CoPs of trusting practitioners, the corporation needs to take measures to make sure that it too is a trustworthy participant in the process and does not abuse the knowledge and ideas its employees share. Companies need to strive to make sure that they create a risk-free environment where employees will naturally share their knowledge and ideas.

² "Corporate Creativity: How Innovation and Action Actually Happen", Robinson & Stern, Berrett-Koehler Pub., 1998

Results frequently tend to show in a 'cascading' effect – with employees testing the new system with 'safe' ideas to test the waters, and only later, once the trust is established, do the truly out-of-the-box ideas tend to show. Also, you have to realize that both the creative process and the sharing of true knowledge can be a mentally and physically exhausting process, one that cannot be done on a continuous basis without stagnation. Instead, the best Idea Management programs follow an 'event' approach that helps to maintain enthusiasm, energy, and genuine creativity strong throughout the process.

7. Ideas Management: Springboard to KM

If done well, however, a good Idea Management system gives you more than just the standard Dynamic Knowledge System benefits. It also provides the ideal platform from which to launch further KM initiatives. Due to the collection of strategically focused knowledge, and the results produced by the approach, the value of your employees' knowledge is enhanced, driving the need for further knowledge management. This new knowledge needs to be stored and shared around the company in an informational KM system. As this database grows, people need tools to be able to search and filter through previous submissions. The dynamic nature of the content means that we are capturing both tacit and explicit knowledge from employees. This means that a company's true experts are revealed which is a far more accurate basis for KMTs than trawling through e-mails looking for repeated words and terms.

In addition, the increased socialization encouraged by this approach can lead to the impromptu formation of communities of practitioners who discover people with similar interests from the ideas and the ensuing interactions. If done across borders, and across departments, true innovation can become rampant throughout the organization, with the collaboration of real experts with multidisciplinary approaches leading the way.

8. Conclusion

For too long, KM systems and companies have been trying to 'bio re-engineer the hand to destroy creativity and innovation'³. Companies and KM vendors alike have attempted to come up with systems that disembodiment employees' knowledge into physical corporate assets without really understanding the circumstances under which it exists and how it can be exposed.

³ This phrase was coined by David Snowden the Director of IBM's Cynefin Center for Organizational Complexity.

Knowledge needs to be stimulated to be exposed. New knowledge is created when the current knowledge is contested. It is widely accepted that new knowledge is the lifeblood of companies in the 'knowledge economy' – not least of which because they provide the foundation for future competitive advantage. The best way to introduce a new concept, such as knowledge management, is to focus on the quick wins that demonstrate tangible value, and the most easily understood impact is bottom line results.

Dynamic Knowledge Systems provide the environment for the stimulus, challenge, and creation of new knowledge as well as the gathering of old knowledge to take place. Idea Management gives that environment a focus on results. It is also an effective springboard for the introduction of KM systems with more intangible returns.

Sounds easy doesn't it? The irony is that after all the money spent on the current strains of KM systems, one of the oldest KM tools known to man, the humble suggestion box, may end up saving the day.

9. Contact Details

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