

The Case for Creative Abrasion

Experts Speak Out on Knowledge Management



Discussion between Barbara Cowley-Durst, Hal D. Christensen,
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In recent months the advocacy that is performance support has become more focused on the notion of knowledge management (KM). We hear these terms frequently in the literature, in the titles of trade magazines, and even in the names of conferences. We also see the label in products, the so-called Knowledge Management Systems. Some say that KM is just another form of performance support; others say that performance support provides the necessary interface to knowledge. Which is correct? What are the issues? Has there been any noticeable improvement in performance because of KM activities? Why all the buzz?

These are just a few of the questions that e-learning, performance support, and KM advocates are wrestling with in their daily practices. So we gathered some of the experts and engaged in a discussion. In January 2001, Douglas Weidner, Hal Christensen, Barbara Cowley-Durst, Duane Degler, and Michael Feldstein converged to help obtain answers around six fundamental issues of KM:

1. Exactly what is knowledge and what is KM?
2. What is the relationship between business and KM?
3. Has technology actually helped the knowledge worker? If so, how? If not, why not?
4. What is the relationship between learning, performance, knowledge, and community?
5. What is the promise of knowledge ecology or a knowledge ecosystem? Does this metaphor add value to the KM practice?
6. What are the human factors of KM? What are the proper roles of human beings in a knowledge ecology that lead to their success with respect to solving the business problem(s) at hand.

Gary: We hear a lot about KM today in the context of capturing, storing, and disseminating knowledge. But this sounds like information processing, not KM. The concern is that people are labeling things as knowledge and KM that have little or nothing to do with knowledge. Perhaps the best place to start, then, is with a definition. Exactly what is knowledge and what is KM?

Douglas: The definitions with which people are familiar include a rule-based definition of knowledge—procedural and declarative knowledge. Trainers refer to Bloom's

Taxonomy, which suggests a knowledge hierarchy based on recall, comprehension, application, etc. In other communities the words intelligence and wisdom appear in the knowledge conversation. Trying to arrive at a consensus definition is difficult, so I suggest going right to the dictionary, which says that knowledge is understanding gained from experience. That's a workable definition from which to move forward in the KM conversation.

Gary: People in the fields of learning, instruction, and education would cringe when hearing the word *understanding* in such a definition. Are there any other definitions?

Michael: I suggest that we have to focus on what we are trying to accomplish rather than try to arrive at a definition of knowledge. The word *knowledge* or the phrase *to know* is loaded with connotation. I think we started using the word *knowledge* out of the realization that there are some things we know that we cannot easily put into words or into a database. To manage knowledge we need to focus on what types of knowledge need to be included from among all, which is very difficult to characterize in a compact set of words.

Duane: To derive a definition of *information* you talk about taking data and deriving meaning, applying meaning, or giving it meaning. Knowledge can only be *exhibited* or *demonstrated* in context with a consensus around the value of the outcome. Further, the value has to exist before the demonstrated event or action can be called knowledge.

Barbara: A key point is that knowledge can be demonstrated. When you say someone knows something, it means he or she can show something or take a test on it, which is *doing*. That is the key difference between information and knowledge: The latter can be evaluated by others.

Hal: The definition that I prefer is *knowledge is information in action*. That gets to the root of the relationship between KM and performance support. We're looking at an end result of something actually being done. Otherwise it is something in somebody's head and doesn't have any value to the organization.

Gary: The description that I've come to really like is that knowledge is *not* an attribute of information, but is an attribute of human beings regarding how they use information in their actions. In a business or any problemsolving context this description frames the notion of KM. Surely information has to be managed in the process of managing knowledge, but that is a necessary but not sufficient condition for KM—which must reflect the dynamics around how a person acts on information.

Douglas: I would like to second that. I often use the phrase, "Knowledge is what you do with information."

Michael: So knowledge is as knowledge does. If you are in an organization that is looking at KM and you accept this notion—that knowledge is *information in action*—how does that change things for you?

Gary: Right. If knowledge is information in action, then what is knowledge management?

Douglas: Most knowledge is in people's heads, as opposed to being explicit, which makes it something that is very difficult to manage. What I believe we can manage is the knowledge processes that people apply, such as acquiring knowledge from outside of your firm, creating new knowledge, and disseminating or integrating knowledge throughout the organization. We can manage processes such as those and help people to be more creative, help people to integrate knowledge, and apply better methods of training. Collaborative communities in which knowledge is shared, for example, provide examples of KM.

Barbara: By managing these processes you are not managing knowledge per se, or even people, but you are managing cultural change.

Duane: You can encourage knowledge sharing, encourage collaboration, and encourage people to achieve goals, which means getting back to business basics. If you know the business goals and focus on achieving them by providing people with what they need to achieve and exceed their limits or constraints, then you have something capable of growing and evolving. That's what KM is all about.

Michael: I want to underscore Duane's words *grow* and *evolve* and point out that KM is more akin to forest management than to business management. Knowledge happens, and if conditions are right, it will grow and flow, like an ecosystem.

Douglas: But in some cases, it needs a technological enabler. That is not to say that technology should be the first priority, but think about when knowledge flowed around the water cooler or coffee pot. Today the analogous group is perhaps separated by thousands of miles, and if you do not add technology enablers, knowledge will never flow.

Michael: In that case, the roadblock would be *lack of proximity*. People need to be able to communicate to share knowledge.

Hal: I agree with Michael's concepts. You are really looking at creating a knowledge environment that can evolve, flourish, and grow in the organization. The notion of forest management as opposed to business management is very good.

Duane: This is not the information model aspect of knowledge but the communication side of it. In pure communica-

tions terms, we are talking about engendering understanding between people, which reflects the first definition of knowledge that we considered in this conversation.

Gary: Yogesh Malhotra [2000] talks about the myths of knowledge management, such as equating information processing with KM. Another myth is that, in the context of business, future success can be predicated on “best practices” that reflect yesterday’s success. In fact, finding a successful business model today is based more on your ability to anticipate surprise in the context of decisionmaking than following any pattern of past success. So, what is the relationship between knowledge management and this new business paradigm that success is based on your ability to anticipate surprise around decisionmaking?

Barbara: There’s no question that the pace of change has led to a new business paradigm in which success depends on the ability to anticipate surprise. To think that KM could eliminate surprise entirely is a fool’s errand. That said, the new business paradigm you describe demands better anticipation of the consequences of actions and decisions. I heartily agree that KM plays key supporting roles in that effort. First, it can enable the *creative abrasion* of ideas required to get a full picture of the choices and their consequences. When you foster collaboration, you invite the opportunity to see a situation from several different perspectives, which can certainly help expose new choices with regard to the future. Second, KM can filter out information that does not support a goal; information management alone does not accomplish that. Third, collaboration helps represent information in a form most appropriate for the context. Fourth, it can support analysis of that information in the context of the business needs, then measure the results. Fifth, it can deliver information to those who can act on that information.

Consider the opportunity pipelines that salespeople use that are typically supported by contact management tools. Usually they assign a dollar value to each opportunity and indicate the probability of closing. But I have not seen tools that enable the salesperson or manager to put a margin of error on that overall pipeline. I haven’t seen any tools that help the salesperson evaluate the opportunity in terms of what is *currently* important to the business—which changes every day. One day it is margin; the next day it is revenue. The tools do not really help the salesperson take effective action on an account. They do not help anticipate breakdowns or surprises other than the overall dollar value of this pipeline. Imagine that the information about breakdowns in the pipelines could appear in sales reports to the salesperson, the managers, and the executives. Then imagine having immediate feedback based on the current business climate. At such a point we are beginning to imagine a KM system that helps reduce surprises.

Hal: I think we all recognize that organizations are constantly changing but they do not know where they are mov-

ing. They need to foster constant re-evaluation and enable positive movement into the unknown.

Gary: Absolutely. The first chapter of Malhotra’s book talks about KM in the context of business model determination. My company is considered a survivor in the current economic turn precisely because we applied Malhotra’s principles of creative abrasion and had a *de facto* KM system in place. I can’t count the number of times over the past three years that I sat through marathon meetings hashing out which business model is the best—and how many times we changed our approach. The venture capitalists tell us that is precisely how we survived. If we had tried to base our model on past trends of success—such as my business in the ‘80s—we would not have survived.

Douglas: There was a trend in strategic planning that addressed this issue. In the early days, we thought we could forecast the future, so we always had five or ten-year plans. We realized the errors in that thinking. Strategic planning has moved to *scenario planning*, where the outcome may be one of many different situations discussed and documented through such “abrasion” discussions. The operative expression, as in the Marine Corps, is, “We don’t plan; we improvise.” It’s a statement of agility.

Duane: That raises a paradox: If improvisation is vital to business success, then you have to empower individuals to make decisions and exercise judgments in the business circumstances they face. So how does the organization embrace diffusion of direction or multiple directions? It has to exhibit a lot of trust—or denial, if you don’t have a mechanism for interpreting and assessing outcomes.

Michael: Yes! But you have to weed out the improvisations that are not productive and perpetuate those that are. You have to find a way to make it possible for people, when faced with unanticipated problems, to try something new; to ask, “Has anyone else run into this before?”—and get answers quickly—and to let other people know when they come up with solutions that work so that the solution becomes available to others in the organization. This is an enormously difficult problem to solve. It is at the heart of KM. Whoever figures it out is going to make a huge amount of money!

Douglas: You’ve just described what I have been calling *connect and collect*. When a person has a business problem and needs to talk with somebody else to help solve the problem, he or she is often reluctant to expose any ignorance. So you first need to provide a knowledge base that people can access for answers before they expose themselves by saying, “I don’t know how to do this.” But you want to have some threshold above which they are encouraged to ask those kinds of questions. That’s where the real creativity comes in. The best thing that I’ve ever experienced is when somebody asks a question and we go late

into the night trying to find answers. But we need follow up: New insight and successful improvisation need to be communicated to other people. A way to accomplish this is to collect such conversations from the small groups that engage them and feed it back into some distribution mechanism. I call it a *knowledge base*, some repository that is instantly accessible to the organization.

Gary: I see two people talking to one another about a problem that elicits innovation and having the salient points captured and made available—but not just the pieces of information, but the *dynamics* of the conversation that resulted in the creative solution.

Michael: What we are talking about demands an enormously difficult cultural change within the organization. You have to get people to trust and to reveal their ignorance. Sometimes people are reluctant to give up what they know and share it. Sometimes managers are reluctant to let people experiment. But I think any organization that is serious about KM must face the reality that it entails really hard work at cultural change management.

Gary: And the hard work really has embodied itself in a number of trends or practices, one of which is the notion of electronic performance support systems, where we turn the paradigm over from learning to actual performance and outcomes. It is embodied in the notion of collecting knowledge, in the new notion of communities of practice, of building a learning infrastructure and a learning organization. All these things require just that kind of hard work and courage.

The underlying question is this: Are these trends properly directed? Are they really improving organizational performance? And what are the relationships between learning, performance, knowledge, and community?

Douglas: I have a few insights. There is enough documented evidence that companies that have attempted some of these things are improving their processes. You can show that the costs of adopting performance support and KM are justified. But many organizations refuse to do the difficult things and therefore apply only a small piece of the solution by adopting document management systems. They build a search engine capable of sorting through 100,000 documents and uncovering 1,000 that are relevant to you. Buried in those 1,000 documents may be just the kernel of knowledge you need, but you're not going to find it, and you're going to give up long before you find it.

So I think one of the mistakes in KM today is that organizations are not facing the really tough issues. Getting down to the level of knowledge where it is really *actionable* is difficult. Too many "solutions" are at too high a level. Just because the system found a relevant document doesn't mean it has accomplished anything in terms of knowledge

acquisition. The need is for the very paragraph or the sentence or the nugget that helps you get your job done *now*. KM happens when the system enables performance.

Gary: The search has to get its grips on the right metadata. It has to capture all those things related to why it is the right knowledge nugget at the right time. That comes from context and the experience that we called the *abrasive* process. That's the difference between capturing information and capturing knowledge.

Barbara: I'm wondering, does the same performance support goal apply to communities of practice? I think it does, because I can imagine them existing across a continuum, from poor to excellent. What distinguishes a good community of practice from a poor one is its ability to develop the answer that people need to perform as part of the community.

Duane: There are a couple of additional points under communities of practice. We need to step back a bit regarding the previous question, because the issue of people being scared to show ignorance is only half the picture. Many people don't know *when* they need to ask something, or they don't recognize that the circumstance requires more understanding or more knowledge than they currently have. The goal of performance support, therefore, is to be able to look at the patterns of the way people are functioning within an environment and bring things to them that they may not be asking for explicitly but clearly need. You need to have a strategy for searching and a construct for defining the problem before you start. Performance support has got to do that. In a different way, communities of practice, if they are successful, do the same thing, because they nurture both internally and externally. They have an internal goal and an internal construct for why they work. They are self-sustaining for the participants involved in them, and they have a purpose for being there. They are not necessarily just there because they want to hang out together.

Douglas: Performance support systems usually deal with more explicit knowledge, whereas the community is dealing with more tacit knowledge. And that's the circle that I was talking about before. If you can get a community of folks to talk about a problem, they will try to make the tacit knowledge explicit. That's fine in terms of solving a problem right now. Furthermore, it may be possible to harvest that solution and make it available in some kind of performance support system for the next person who has the same problem. I think going back to the community is nice and desirable and has many positives associated with it, but it consumes time and energy that is better invested in new knowledge.

Gary: So the synergy between performance support and the communities of practice should manifest itself in the performance support development lifecycle. The cycle has to be to convert tacit knowledge to explicit knowledge, capture

it, make it available through a performance-centered interface—and continue the cycle. How, then, do we create an infrastructure that addresses these elements—e-learning, KM, and performance support?

Hal: We are talking about integrating all these elements. The problem I have with the current learning management systems, e-learning portals, and document-management systems is that there is too much fragmentation if we are to embrace the ecosystem metaphor. E-learning starts with a competency model that assumes that if we measure deficiencies in competencies in individuals and fill those deficiencies through training, we will create a competent organization. That doesn't create business competency and performance. Today most of e-learning, KM, and performance support focuses on the individual and is designed on a false premise that if each individual within the organization is competent, then the organization as a whole will be competent. We need to look at the larger context of the organization. Performance support means *business* performance or performance of the organization. So we need to look at e-learning, performance support, and KM as a total ecosystem. Each piece plants the seeds to grow each of the other pieces. For example, the e-learning piece enables use of the knowledge base and fosters the community elements. The goal is to keep people actively engaged in a learning process through performing the job. The community of practice, in turn, enhances the learning process as its outcomes are fed back into learning elements. Ultimately, the goal for all is organizational performance.

Gary: So the key elements are integrated as an organizational ecosystem.

Hal: *Interweaving* is perhaps a better term than integration.

Michael: Let's look at what the interweaving might look like operationally. First, we have established that KM is neither directly nor indirectly a social activity. The trend in e-learning is to create lots of learning objects and self-paced training, which runs contrary to the social knowledge-sharing aspects of KM. The learning environment needs to resemble the work environment as much as possible, which means that teaching and learning must always foster knowledge sharing. So you need to bring the tools that people use on the job into the learning environment, or the learning environment needs to provide the tools that are necessary on the job.

Once people are learning together and using tools of the job, there are at least two ways to start stimulating the integration. One is through creative abrasion, which is the idea of rubbing what we think is knowledge against actual experience in communication. This can be done by introducing an expert to the work conversation who challenges and facilitates the work conversation with the e-learning portal. Another is to introduce real business scenarios and problem-solving activities.

Douglas: What we are saying is that content is only a small piece of the knowledge continuum. Generating communication and trust among workers is critical. My approach in training, for example, is to give a very short workshop where trainees who are coworkers build mutual trust as they solve business problems. At the conclusion of the class, we form a community of these former classmates. Members of the community eventually become facilitators for the next communities. The idea is to keep excitement high for the community process rather than to foster an event mentality, like certification.

Hal: The right perspective is to build teams and create communities of practice from among people who are performing similar jobs, toward the goal of organizational competency.

Barbara: Perhaps you could make certifications dependent on things like establishing communities of practice and capturing knowledge from that community—beyond the event that is the conclusion of a training program.

Michael: Again, we are talking about an ecosystem. We have to move beyond dealing with the individual, because the success or failure of an organization depends on the interactions among the individual members. The idea of looking at an ecosystem in biological terms is that the whole is in fact greater than the sum of its parts and you have to look at the entire system to know if you have a crisis or if you have a healthy, functioning system.

Gary: Furthermore, there is the notion of adapting. In this context, knowledge is not just created and managed, but appropriately destroyed from time to time. If one attempts to apply information to a problem and it has no value to a business outcome, then such knowledge needs to fall by the wayside. What is the promise of knowledge ecology or a knowledge ecosystem, and is that a good metaphor?

Michael: The issue of appropriately destroying knowledge is a critical one, one that is not being asked enough. We talk all the time about information overload, but we're blocked from moving too far on that thought by the terminology itself. We believe that knowledge is inherently good—you want to know as much as you can get; you want to be knowledgeable. But we must recognize that knowledge can become obsolete. The natural process for weeding out obsolete knowledge is conversation, argument, or debate. You might think of ideas as genes and KM as about maintaining a habitat for them. We want an environment that *includes* the predators that kill off obsolete or bad ideas. Information overload is a knowledge or idea predator. It prevents ideas from getting to people, but it is not discriminating or productive. Creative abrasion—challenging and even healthy confrontational conversation between people—is discriminating. You also need the right care and feeding so that good ideas can survive, like rewarding good ideas through praise.

It means creating an environment in which ideas can jump to a new medium where they can be reproduced—such as in someone else’s head, through communication, and in conjunction with information management technologies.

Barbara: Organizational retribution for challenging the status quo is a knowledge predator that discriminates incorrectly.

Duane: In this context, one of the key questions regarding communities of practice is whether online communities should be self-sustaining or not. Should they be formally or informally managed?

Douglas: Experience shows that unless someone provides energy, the self-sustaining ones have a tendency to die out.

Duane: Getting back to the ecology metaphor for a moment, consider when a managed forest is planted. Plastic is wrapped around the bases of the trees until they have grown to the level of the most immediate predators, when they can begin to grow on their own. For the KM system, we need to determine when it is appropriate for a facilitator or referee to step away and let the community grow on its own.

Michael: That’s a particularly challenging and appropriate question when you’re talking about a community that has been fostered within an organization for the purpose of improving a specific kind of performance, because there is a risk that the organization is investing resources into nurturing a community over which it inherently cannot have control. If the organization exerts control, then it is no longer an ecosystem. You are no longer letting knowledge flow, and people very quickly lose the sense of ownership and the community dies.

Douglas: But at the onset, the organization needs to provide funding and at least a facilitator to provide the energy to set the community in motion.

Duane: It’s a dangerous assumption that a *created* ecosystem is ever independent or complete in its own right. Some aspects of goal setting and management are tied to the needs of the surrounding environment, even if operated independently. We see this in nature, where forest fires and floods, though in some ways “natural,” are in part the byproduct of larger environmental and societal management decisions. I suppose one lesson must be to look at how much control is really possible or desirable before an ecosystem significantly affects the surrounding environment.

Hal: Contrary to what the literature reports, I don’t agree that communities of practice are natural. You have to transform people from working as individuals to working as part of an organization, and that doesn’t happen just by setting up a community of practice and letting it manage itself. You have to cultivate community skills, just like in teambuilding

or change management. Members need to learn how to listen and how to respond to other members.

Barbara: We are back to the issue of anticipating surprise.

Gary: Just putting a technology infrastructure in place with the attitude “Build it and they will come” doesn’t work. Studies suggest that a human referee is often necessary to make an online community work. And having great technology doesn’t mean success if using it is not within the scope of the group’s common goals. Once the group begins to function on a more basic level, in terms of human factors, it is more likely to experiment with available tools and technology.

Duane: There are two types of human factors: One is cultural, regarding how people engage in conversation and information sharing. It might have once worked around the water cooler, but what about the electronic environment? What about the way groups tend to fragment and how subgroups or offshoots form? How is this process managed and nurtured by the organization?

The second is the human factor around technology. Even if you build it and they come, will they stay? If the technology doesn’t make things easier, then people will abandon it and find alternatives.

Michael: One of the issues that exacerbates the problem is that software development models are fundamentally at odds with the kind of organic knowledge and social development processes we’ve just discussed. The typical process is for the developers to consider what it is “the user” needs, but too often in isolation of actual “users” until too late in the process. We need more reliable and cost-efficient means of developing electronic communities, KM, and the like. We need something analogous to how walkways were “designed” at Livingston College, where sidewalks were not paved until well-worn student pathways were observed.

Conclusion

KM is certainly not technology. It is perhaps enabled by elements of today’s technologies, but it is fundamentally a very organic process. Its context is business goals and it works through human processes of collaboration. It is about nurturing ideas toward a business end and in context with how human beings behave in communities and in conversation. Encouraging an idea to survive is as important as allowing it to die in the ecology of business evolution.

The largely singular events of typical e-learning miss the target that is organizational competence. Rather than focusing on people learning pieces of content and certifying them on that basis, learning and e-learning environments should be used to foster the things that make a business function properly,

which means planting the seeds of community and decision-making. It is the process of *creative abrasion* that turns the wheels of problemsolving. It is when people come together in their communities to discuss, argue, and challenge that knowledge is created. KM systems, therefore, must embrace a synergy between learning, supporting performance, managing information, and fostering a knowledge ecosystem.

While the technologies of collaboration, capture, storage, and dissemination are parts of the KM practice, they are once again just tools. We must look at how communities work, at how businesses thrive, and at the natural processes that are ecosystems and ally them to knowledge, and transfer individual learning to organizational performance. The pieces—communities of practice, e-learning, and performance support—need to work in a balance that nurtures organizational knowledge and ensures continuous business success. 🌱

Reference

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