Understanding 'The New Knowledge Management'

By Mark W. McElroy

Introduction

I am often asked what exactly I mean by the term, *The New Knowledge Management*, and also about what makes it any better or different from older or existing schools of KM theory and practice. It seems worthwhile, therefore, to try to answer these questions, as the issues they raise are very important ones.

In brief, *The New Knowledge Management*, or TNKM, is a variant of second-generation KM[1]. Students of KM will recognize this latter term as one which refers to a school of theory and practice that focuses not only on enhancing knowledge sharing and re-use, but on knowledge creation, as well[2]. First-generation KM – still widely practiced – concerns itself mainly with the distribution, sharing, and use of existing knowledge, whereas second-generation KM backs up a step, if you will, and takes up the question of how we can improve knowledge production, as well.

Because second-generation KM deals explicitly with knowledge production, it lacks the convenient assumption found in first-generation schemes – namely, that valuable organizational knowledge already exists. Rather, it begins at the beginning, at the seminal stage of knowledge, and concerns itself with how knowledge is created, what motivates its production, and how we can *know that it is knowledge* after it has been produced. After all of that has been answered, it then joins with its first-generation kin to address matters related to distribution, sharing, and use.

Of the unique questions raised in second-generation thinking is the last one just mentioned above: *how do we know knowledge when we see it?* It is precisely the variations in response to this question that lead to variations in second-generation KM. *The New KM* is only one such variant, but it differs from all of the others in the following way: *all other variants of second-generation KM extant are justificationist at base*. What I mean by this is that they begin with the assumption that humans can be certain of their knowledge, and that truth can be justified (proven or known with certainty, that is). This leads to the claim that what managers declare to be knowledge is, in fact, the real McCoy – true knowledge with certainty, or justified truth.

Perhaps the most emblematic case of justificationist second-generation thinking can be found in the well-known book co-authored by Nonaka and Takeuchi, *The Knowledge Creating Company*[3]. That Nonaka and Takeuchi (N&T) hold to the justificationist view of knowledge is no secret. Indeed, they quite openly declare: "…we adopt the traditional definition of knowledge as 'justified true belief.' "[4] And what is the source of their justification for knowledge in business? Why management, of course. In other words, beliefs or claims are justifiably true for N&T when they happen to comport with what management thinks is true. Otherwise, for all intents and purposes, they are false.

N&T's brand of justificationism is authoritarian in form. That is, knowledge is justified by an appeal to the authority of management. Indeed, listen to how they describe the role of management in determining what should pass for truth in business:

> "In a knowledge-creating company, it is primarily the role of top management to formulate the justification criteria in the form of organizational intention, which is expressed in terms of strategy or vision. Middle management can also formulate the justification criteria in the form of mid-range concepts. Although the key justification criteria are set by top management, and to some extent by middle management, this does not preclude other organizational units from having some autonomy in deciding their own subcriteria."[5]

Note that the only discretion allowed to middle managers and others in a firm is that which falls within the justification criteria *already set* by top management. In other words, management says, '*You can believe anything you like as long as it fits within, and does not conflict with, our beliefs and our knowledge.*'

What's wrong with this, of course – and with *all* forms of justificationism – is that managers sometimes err. Truth or accuracy has nothing to do with rank or title. Rather, it springs from the degree of correspondence between a belief or a claim and the reality of what they purport to describe. If a tree exists in reality and top management says it doesn't, the tree still exists.

This brings me back to the idea of *The New KM*. What differentiates TNKM from all other variants of second-generation KM is that it is anti-justificationist. Not only does it deny the appeal to (management) authority as a basis for truth, it denies the very possibility of certainty about truth in the first place. That is, it says we as humans are fallible and can never know the truth with certainty. It gets this perspective from the great twentieth-century philosopher Karl R. Popper, whose Critical Rationalist and Falsificationist formulations lie at the heart of the discipline. Popper's doctrine is called *fallibilism*[6], the view that humans are irreparably fallible with regard to their knowledge. Thus, TNKM is second-generation KM with a Popperian spin to it. It is a *fallibilist* variety of knowledge management.[7]

And this, as they say, changes everything. If there can be no truth with certainty, only proximity to it at best, any part of our knowledge may be wrong – even top managers' knowledge. Popper's response to this was to suggest that all knowledge should be continuously subjected to tests and evaluations, to rational and continuous criticism. Only by doing so can we eliminate the errors in our thinking and get closer to the truth. But to assume that we have ever arrived at *truth with certainty* is to assume too much. In matters of truth, humans are irreparably fallible, said Popper; we all suffer from the fact that our beliefs, observations, theories and conclusions are mediated by our minds. Thus, we are all irreducibly at least one-step-removed from reality. No matter how convinced we may be of the truth, there is always the possibility we may be wrong!

Justificationists, of course, see things differently. For them, truth can be had with certainty. And once had, the need to engage in further discussion about it, much less criticism, fades away. Instead, armed with certain truth, there is interest only in acting in accordance with it. Any attempt to challenge knowledge that has been justified is viewed as counterproductive, undermining, even suspicious. Alas, business are based on the assumption that we all subscribe to authoritarian justificationism, and that whatever top management says must, for all intents and purposes, be true.

In sum, then, *The New KM* is the *first and only* school of KM theory and practice to deliberately embrace fallibilism. And this, its unique epistemological basis – *its anti-justificationism* – arguably makes it the most compelling, most powerful brand of KM to emerge thus far. For if human knowledge is truly fallible, the last thing we need in business is an authoritarian approach to knowledge processing that would have us carry on as though it weren't. What we need, instead, is a philosophy of knowledge that allows us to continuously hold our ideas open to criticism, regardless of where they come from, or the rank of their proponents. This is the credo of *The New KM*.

A Common Objection

Let me now quickly deal with a common objection to the direction of my remarks, one that is actually based on a false conclusion – namely, that anti-justificationism necessarily entails the rejection of management authority. Indeed, if TNKM necessarily entails the rejection of management authority, how could it possibly be viable in business? My response to this is to say, first, that there is a difference between a commitment to obedience and a commitment to belief. I can at once be obedient to my master, even as I respectfully disagree with his or her version of the truth. As the ancient Greek philosopher, Pericles, once said, *"although only a few may originate a policy, we are all able to judge it."*[8] Fallibilists do not reject authority; they only reject its use as a basis for determining truth. Thus, ours is a *best of both worlds* vision.

The issue, then, becomes the extent to which an organization welcomes and encourages judgment or continuous criticism of its policies, versus denying and *dis*couraging them. I believe that the kind of KM theory and practice recommended by Nonaka and Takeuchi falls into the latter category, and for that reason it is dangerous and irresponsible. For when we unquestionably accept the word of managers as truth, we not only embrace a false claim (i.e., that truth with certainty can be had), we also deprive ourselves of the opportunity to get closer to it – to *truth*, that is. Instead, we condemn ourselves to the risk and consequences of the appeal to authority as a basis for truth.

Ironically, from a manager's perspective, nothing could be more negligent or irresponsible than to practice and enforce justificationism. The same goes for directors. Investors in corporations and their employees, too, put their faith and trust in managers and directors to act on their behalf as best they can. For managers and directors to create and sustain operating environments in which the pretention of certainty prevails does a grave disservice to precisely those whose care and best interests are in their hands. Worse yet, it raises the risk of whole firms taking illicit actions at their own peril, thanks

to the unchecked nature of top management's 'knowledge.' Think Enron, WorldCom, ImClone, Adelphia, etc.

No, what we need and want instead are operating environments in which all organizational knowledge is continuously subjected to our tests and evaluations, even as employees remain obedient to their masters. What we need, in other words, are operating environments that can help to quality-control the content of our ideas, so that all of us, not just managers, can be held more intellectually accountable. For obvious reasons, I and my friend and colleague, Joseph M. Firestone, refer to this vision of the intelligent enterprise as the *Open Enterprise*[9], named appropriately after Karl Popper's conception of the 'Open Society.'[10]

Having claimed that an enterprise can at the same time be open with regard to knowledge processing, and closed with regard to management, I will now turn my attention to how TNKM makes this possible.

Unmanaging Knowledge Processing

Now that I have explained the anti-justificationist roots of TNKM, I should explain next that *The New KM* owes another very important part of its heritage to complexity theory – to complex adaptive systems theory, or CAS theory, in particular. To the uninitiated, CAS theory hails from the science of complexity, which is the study of emergent order in decidedly disorderly systems, like weather, population trends, speciation, and, yes, learning. For living systems composed of agents or organisms that learn, CAS theory brings much to the table in terms of helping to explain the role and evolution of knowledge. This is what makes it so relevant and important to KM.[11]

CAS theory (and complexity theory, in general) is also one of the 'homes' of self-organization. In other words, ideas related to the origin, dynamics, and impact of self-organization in living and non-living systems come largely from complexity theory. In the present context, then, I and many others claim that learning is a self-organizing process, and that the knowledge we produce through such processes is also, therefore, emergent. CAS theory informs us accordingly.

In a social context like organizations, we can also say that people in organizations, as they learn, tend to self-organize around related (learning) processes. This, at least, is the natural way of things – no management required. And so in a very real sense, if what we want to do is enhance an organization's capacity to learn (and the learning of individuals within it), we should stop trying to manage the process so much and instead focus more on getting the hell out if its way. It's a self-organizing, self-propelled system – it doesn't need our help!

I say this somewhat facetiously, of course, because I do believe that we can enhance the organizational learning and innovation process, but I also believe that the process we're trying to enhance is self-organizing and doesn't really need our help. In organizations, it's *already in there*, so to speak. Its motivating force is internal, and is powered by the intrinsic interests and motivations of its human members to solve problems and learn

without necessarily being coerced from the outside to do so. Let us not forget that management is a relatively new field of endeavor, and that people have been learning just fine without it for millennia.

Having said that, I believe there are steps we can take to support, strengthen, and reinforce the learning process so that the self-organizing thing of interest to us can be enhanced. It is this philosophy of taking a deferential and supportive approach to learning, not a controlling or determinate one, that I have in mind when I speak of *unmanaging knowledge processing*[12]. If what we call for in TNKM is in any way management at all, it is of a distinctly deferential and indirect kind. We manage the conditions around the thing, not the thing itself.

Here then, on the basis of what we have discussed so far, are four principles that we can say lie deep in the heart of *The New KM*:

1. Because humans are fallible, knowledge with certainty is impossible for us; it is therefore imperative that we continuously subject our beliefs and claims to rational criticism so that we can eliminate our errors and get closer to the truth;
2. In an organizational setting, people who continuously subject their beliefs and claims to rational criticism (so that they may eliminate their errors and get closer to the truth) tend to self-organize around related collective behaviors;
3. The behaviors they display as they do so have pattern-like regularity to them;
4. Knowledge managers can support, strengthen, and reinforce these behaviors by recognizing related patterns, and *managing the conditions* around them.

Supporting the Pattern

Only the third principle above has not been discussed thus far. So let me address that now before I move on.

Readers familiar with my work, Joe Firestone's work, or any of the others variously associated with the Knowledge Management Consortium International (KMCI) in the past few years, will recognize, I trust, KMCI's Knowledge Life Cycle (KLC) model (see Figure 1). The KLC is a generic view of the self-organizing pattern people form in organizations as they engage in learning and problem solving. In other words, the KLC is a view of social knowledge processing.[13]

I will not attempt to explain the KLC too much here, since it is only my intention to explain what is meant by *The New KM*, but suffice it to say that the KLC is not ad hoc; that it is deeply rooted in CAS theory, political science, epistemology, and psychology; and that *The New KM* would be lost without it. Central to TNKM, in fact, is a subprocess in the KLC known as 'Knowledge Claim Evaluation,' through which people in organizations subject their beliefs and claims to continuous testing and evaluation. In some organizations, Knowledge Claim Evaluation regimes are weak; in others they are strong; in an *Open Enterprise* – the TNKM vision – they are strong.[14]

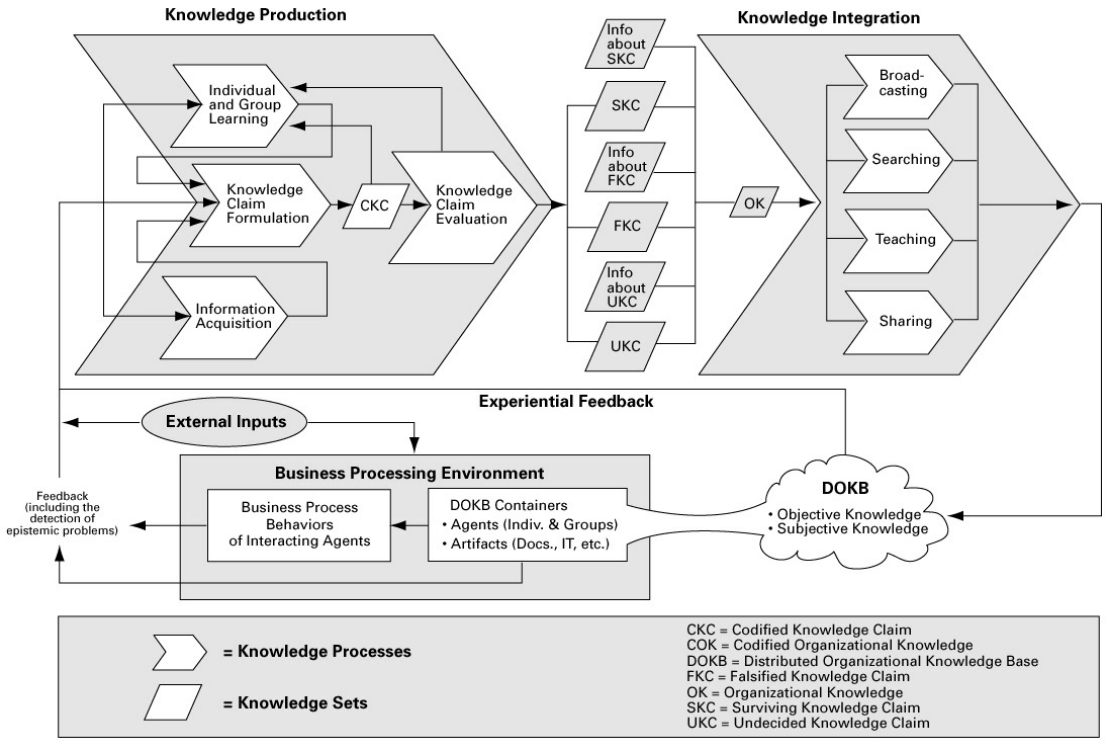

Figure 1 – The Knowledge Life Cycle (KLC)

In an Open Enterprise (OE), where knowledge processing is a relatively transparent and welcoming affair, hotbeds of Knowledge Claim Evaluation are everywhere. In the OE, a kind of *open knowledge ethic* prevails – the idea of truth with certainty is absurd, and no knowledge is sacred. Moreover, rank, with respect to the validity of an idea or a claim, is irrelevant. As members of an OE, our solemn duty to each other is to hold our ideas accountable to the tests and evaluations of others, and to hold others' ideas to the same tests, as well – always with respect. In the OE, it is never about the person, it's about the ideas, and the claims about them are always regarded as objectively testable.

But rank, in the OE, has its privileges, too. There is work to be done and customers to satisfy. And all work is knowledge-based, in the sense that action and business processes are nothing more than procedural knowledge in use; even strategies are just another set of knowledge claims. In the OE, we commit ourselves to the controlling authority of managers and to the duty of employees to follow their instructions. But we also commit ourselves to anti-justificationism, to fallibilism, and we see to it that all knowledge at the base of our strategies and operations is perpetually open to criticism and improvement. We do this not because of our distrust of management, but because of our loyalty to the organization, its stakeholders' interests, and to the pursuit of truth in their name.

In the OE vision of knowledge processing, there are no monopolies. There are no justification criteria handed down from on high as in Nonaka's and Takeuchi's world. All knowledge is fallible because all humans are fallible with respect to their knowledge.

And everyone knows, in the OE, that the detection of an error can come from anywhere. Thus, in the OE, the goal of KM is to create the organizational conditions in which knowledge processing, especially Knowledge Claim Evaluation, becomes a pervasive, whole-firm affair. Managers manage, and their employees follow their instructions, but ideas take on lives of their own and everyone can judge them.

In the OE, processes and systems are utilized to support knowledge processing in parallel with everyday business processes, and every now and then errors are detected and managers are held accountable to them. By whom? By us all and by the Board of Directors. In the OE, the fiduciary duties of directors go beyond mere financial oversight to encompass knowledge processing, as well.[15] The quality of knowledge in the OE is just as important as the financials are to protecting the interests of investors and other stakeholders, because all work is, after all, knowledge-based. If knowledge is faulty or error-ridden, the work we do in accordance with it will hurt us, not help us. We must quality-control all of our organizational knowledge, not just the numbers that show up on balance sheets and income statements.

Because knowledge is produced through pattern-like social processes (see the KLC in Figure 1), and because these processes are self-organizing in their ontogeny, the best approach to take in enhancing our capacity to quality-control our knowledge is to focus our efforts on managing the conditions around the KLC, and not on misguided attempts to manage the KLC itself. I have already mentioned this once above, but I will now explain how this is done as a basis of my own brand of TNKM practice.

Policy Synchronization Method

What *are* the relevant conditions to an organization's knowledge processing behaviors? *What exactly* would TNKM have us manage, if not learning behaviors themselves?

If we begin with business processing 'practices' and 'outcomes' (i.e., from within the 'Business Processing Environment') and work backwards (see Figure 2), we find that business processes or practices employed at work are always informed by, and expressive of, our knowledge. Some of this knowledge is more or less codified than the rest, but it is all no less knowledge.

Knowledge, in turn, is the product of learning (i.e., a product of the 'Knowledge Processing Environment'). We produce it either by forming and evaluating beliefs and claims ourselves, or by relying on others who hold our proxies (our trust) to form and test ideas for us on our behalf. In such latter cases, our surrogates teach us their conclusions and we accept them as a basis for action. In any case, we ultimately *take* action and engage in behaviors in accordance with the knowledge we regard as most appropriate for the circumstances we encounter.

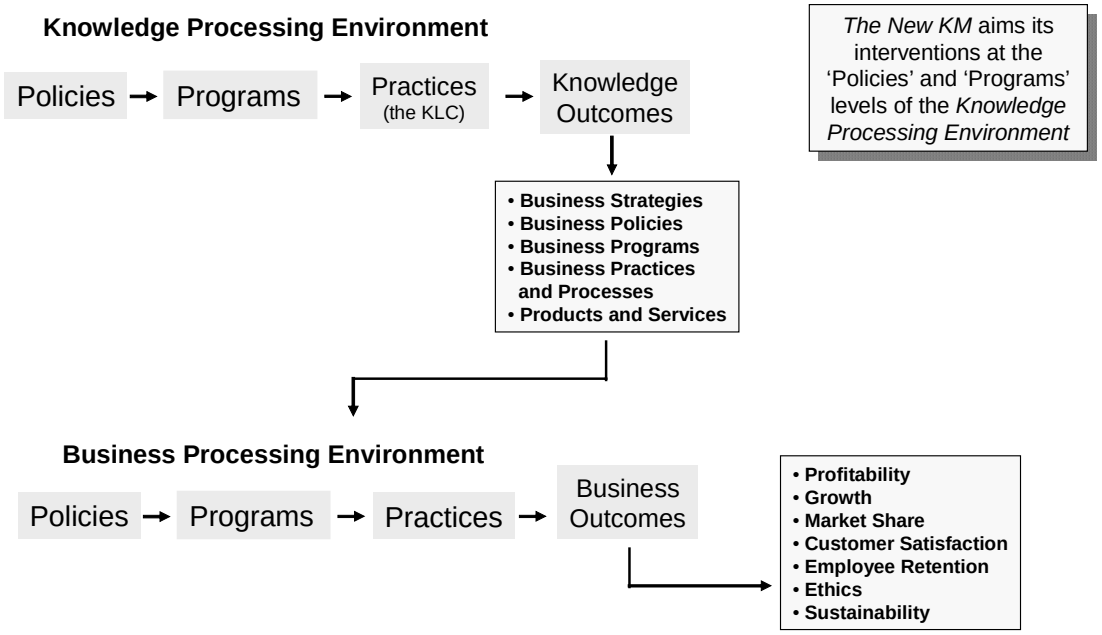

Figure 2 – Knowledge Processing Versus Business Processing

Learning in organizations is, itself, a social process that we practice, separate and apart from business processing behaviors. Business processing entails knowledge use; knowledge processing entails knowledge production and integration. Using the KLC as a template, any organization's learning behaviors can be described in its terms. How and when each subprocess takes place, however, can vary dramatically from one organization to another. Thus, the KLC is a generic framework, not a model.

But how do we account for these differences in learning behaviors from one organization to another? The answer lies in their learning-related 'programs' (or rules), which in turn are attributable to higher-level 'policies.' This, therefore, is the proper playing field for practitioners of TNKM: *learning-related policies and programs in the 'Knowledge Processing Environment*.' Shape learning-related policies and programs in such a way that they become synchronized with the pattern-like regularity of the KLC, we argue, and enhanced organizational learning, innovation, error elimination, and problem solving will follow. In Figure 2, these self-organizing learning behaviors (the KLC) are represented as 'practices' in the Knowledge Processing Environment.

I call this approach to TNKM 'policy synchronization' for reasons just explained, and I and my colleague, Steven A. Cavaleri, codified it in the form of a method that we call the *policy synchronization method*, or PSM[16]. The PSM method was designed to help practitioners of *The New KM* enhance a target organization's collective learning

behaviors. To do so, we first abstract business processing behaviors out of the target organizational environment. We are only interested in having impact on learning-related behaviors – which, of course, we believe will have beneficial effects on business processing behaviors and outcomes. Indeed, that's the point of it all, but the business processing effects of our interventions are downstream from where we sit.

We then make the distinction between the learning system's *structure* and its *operations*. Structure, in this context, includes things like the intellectual makeup of its members (we call it *ethodiversity*[17]), and also the presence and distribution of groups, teams, communities, etc. that engage in learning. These are the working parts, so to speak, of the organizational learning system. In other words, the actors or 'agents' who populate the KLC are individuals and groups, and together they comprise the structure of the system.

The operational part of the model looks at how the working parts (or agents) work. What are the specific patterns involved, and how do they map into the KLC? Are there perhaps operations missing from the organization that are otherwise reflected in the KLC? And in cases where operations map nicely into the KLC, what is the nature of the specific behaviors and circumstances? If, for example, Knowledge Claim Evaluation is being performed, how specifically is it being performed? Is it spontaneous, or are there formal programs in place that guide and support it?

Using this s*tructural* versus o*perational* distinction, we can set about the task of measuring related behaviors, and can also identify the underlying programs and policies that comprise their conditions. If one company has a very lively group learning function, while a second one does not; and if the first company has an active *Communities of Practice* program in place, and the second one does not; we might conclude that the first company's program and the policies that lie behind it have something to do with the advanced group learning behaviors we're seeing in the first case.

Between the *structural* and *operational* dimensions of our method, there are eight (8) categories of learning-related policies and programs, the management of which constitutes management of an organization's learning conditions. Here they are:

- **Structural Dimensions**

  - **Ethodiversity** – The degree of diversity in values and worldviews held by members of an organization – impacts the range of perspectives and experiences available to an organization as it seeks to detect problems and opportunities, and to search for solutions to them.
  - **Connectedness** – The density or degree of connectivity between individuals and groups in organizations – impacts the extent of interactions between people and the velocity of information flow.
  - **Community Formation** – The extent to which an organization encourages and supports the self-organized formation of learning-related groups or 'communities of learning, practice,' etc. – a pre-condition for group learning (see below).

- **Operational Dimensions**

  - **Individual Learning** – The extent to which individuals are free to pursue learning agendas of their own choosing – impacts rate and quality of organizational innovation**.**
  - **Group Learning** – The extent to which groups or 'communities' are free to pursue learning agendas of their own choosing – impacts rate and quality of organizational innovation.
  - **Knowledge Production** – The extent to which formal and informal learning at the level of authority structures (e.g., management and governance) are open to inspection (transparency) by, and participation (inclusiveness) from, employees and other stakeholders – impacts rate and quality of organizational innovation.
  - **Knowledge Sharing** – The extent to which individual and organizational knowledge is accessible to stakeholders who may want or need it, as well as the quality of knowledge diffusion in the organization – impacts business-level knowledge use and performance, and the capacity of stakeholders to recognize and detect problems.
  - **Knowledge Entitlement** – The extent to which title to, and benefits from, intellectual property and other forms of intellectual capital are shared with employees and other stakeholders who contribute to their production – impacts problem solving and innovation behaviors by tapping into intrinsic motivation at the level of individuals and groups.

The current configuration of policies, programs, and behaviors across these eight dimensions in an organization determines the actual climate for learning and innovation. It is important to understand that if any of these areas of policy are poorly or inadequately defined, learning and innovation behaviors at all levels can actually be dampened and suppressed. Thus, while the configuration of policies and programs in these eight areas of interest are admittedly one-step-removed from actual learning-related behaviors and two-steps-removed from business-level behaviors, their influence is systemic and inescapable. When dealing with self-organizing systems, the composition of the environmental backdrop is everything.

To further illustrate the substance and practice of the PSM method, the next section below offers some examples of policies and programs that managers can implement, with the expectation that doing so will result in higher learning-related performance. In each case, I have also indicated whether or not the dimension involved will have impact on the transparency (T) of knowledge processing, or the degree of inclusiveness (I) associated with it[18]. Allow me to explain this further.

If the dimension involved relates to transparency (T), it means that managing related policies and programs will have impact on organizational learning, innovation, adaptation, and performance *by improving the visibility of* business and learning processes and related information to stakeholders. If the dimension involved relates to inclusiveness (I), it means that managing related policies and programs will have impact on organizational learning, innovation, adaptation, and performance *by improving*

stakeholder opportunities to participate in business and learning processes, as well as entitlements to related information.

Here, then, are the examples, including some company references where associated cases can be found:

- **Structural Dimensions**

  - Ethodiversity (I)

  Sample Policy: Establish a policy which declares the importance to the organization of diversity in employee values and worldviews.

  Sample Program: Implement this policy by establishing a program that (a) defines related targets for the organization (i.e., an ethographic mix), and (b) seeks to reach and sustain its targets by way of new recruiting, hiring, and retention practices.

  Example: In general, Ross Ashby's Principle of Requisite Variety[19], according to which an organization (or system), in order to survive, must be at least as complex as the market (or environment) in which it functions. Many universities employ this principle in their admissions practices. Note also that this is not the same as *ethno*diversity, which focuses more on race, nationality, and other ethnic considerations. By contrast, e*tho*diversity is diversity in values and worldviews, not ethnicity – it is diversity in ethos.

  - Connectedness (I)

  Sample Policy: Establish a policy which declares the importance of connectivity between employees and other stakeholders in the organization, and which seeks to ensure opportunities for employees to communicate with one another on an as-needed basis.

  Sample Program: Implement this policy by providing communications and collaboration tools to all employees, including related technology infrastructures.

  Example: Most organizations already do this by way of telephony, e-mail, and other systems that support interaction and collaboration amongst employees and other stakeholders, but some do it better than others.

  - Community Formation (I)

  Sample Policy: Establish a policy which declares the value of Communities of Practice, Knowledge, Interest, Inquiry, etc. to the organization, especially self-organized ones.

Sample Program: Implement this policy by establishing a formal Communities of Practice (etc.) program, including organizational resources and support required by employees to create, join, and/or participate in related activities.

Example: Deere & Company in Moline, IL, which encourages the formation of self-organizing Communities of Practice(CoP) by providing corporate assets and backing for them to use. Many other organizations have CoP initiatives in place.

- **Operational Dimensions**

- Individual Learning (I)

Sample Policy: Establish a policy which declares a high value for self-directed employee learning, and which seeks to balance training mandated by management with discretionary educational pursuits defined by employees.

Sample Program: Implement this policy by establishing a program which permits employees, with full organizational support, to pursue learning agendas of their own choosing.

Example: 3M Company in Minneapolis, MN, whose 'Fifteen Percent Rule' program makes it possible for employees there to spend up to fifteen-percent of their time engaged in self-selected, self-managed learning[20].

- Group Learning (I)

Sample Policy: Establish a policy, as a corollary to the Community Formation factor above, which declares the importance of team and group learning to the management and governance of the organization.

Sample Program: Implement this policy by establishing a program which permits Communities of Practice, teams, and other groups to pursue group-level learning agendas of their own choosing, and which also integrates the results of their efforts in meaningful ways to the organization's formal management and governance functions.

Example: Again, Deere & Company in Moline, IL, which not only supports Community Formation, but also makes it possible for such Communities to pursue learning agendas of their own choosing.

- Knowledge Production (T&I)

Sample Policy: Establish a policy which declares the value of transparent, inclusive, and enterprise-wide learning to the performance of the organization.

Sample Program: Implement this policy by launching a variety of programs which (a) make the distinction between organizational learning and organizational

management, (b) treat and support learning as an enterprise-wide process, (c) integrate individual and group learning activities and outcomes (per above) with management- and governance-level learning, and (d) accomplish of all this without undermining management authority. The goal of these programs should be to more fully harness the learning and innovation potential of the entire organization.

Example: Nucor Steel in Charlotte, NC, which gets most of its innovations from the factory floor instead of an R&D function.

Also, Mitsubishi in Normal, IL, which relied on employee input and participation in problem solving to help turn this plant around from near collapse to the fastest-growing Japanese automaker in the U.S.

Also, Deere & Co. again, whose Communities of Practice are provided with ties into management's formal planning and decision-making processes.

- **Knowledge Sharing (T)**

Sample Policy: Establish a policy which declares the importance of information and knowledge disclosure to the organization's stakeholders.

Sample Program: Implement this policy by taking steps to enhance information and knowledge disclosure, including the use of technology, event, and publication means to do so. Special emphasis should be placed on enhancing top-down disclosures of decisions reached by directors and managers, as well as bottom-up, or inside-out, disclosures of employee perspectives on the same or other matters.

Example: Buckman Laboratories, Inc., a chemical company in Memphis, TN, which has achieved near legendary status in the Knowledge Management arena based on its knowledge sharing practices and their impact on performance.

Separately, enhancements in knowledge sharing and disclosure practices are now being tied to corporate accountability improvement efforts, including the Sarbanes-Oxley Act of 2002, according to which mandatory disclosure of certain financial information is now required of public companies.

- **Knowledge Entitlement (I)**

Sample Policy: Establish a policy which declares the organization's commitment to sharing the title to, and value of, its intellectual capital (IC) with employees and other stakeholders who help to create it.

Sample Program: Implement this policy by establishing programs which make it possible for employees and other stakeholders who contribute to IC development to (a) receive authorship credit, such as co-inventor status on patents, and (b) share in the economic rewards of IC. One-sided Intellectual

> Property agreements that restrict title and benefits of IC to employers, only, should be revoked and reformed.
>
> **Example**: Innocentive, Inc., an e-business venture of Eli Lilly & Company, through which Lilly actively recruits third parties to help co-develop new pharmaceuticals and other products. Lilly's willingness to give up exclusivity of IC ownership and other entitlements has been key to the success of this enterprise.

To be clear, each of the eight dimensions or variables addressed by the policy synchronization method has impact on one or more of the KLC's subprocesses. This, in fact, is how the eight areas of focus were selected. Thus, in order to fully set the conditions for the self-organizing behavior of the KLC, policies and programs related to its components, or subprocesses, must be configured in all eight areas. In their collective form, then, such policies and programs add up to establish the total environment, or climate, for organizational learning and innovation. The better the environment, the better the learning and innovation. This is the thinking behind the PSM method in a nutshell.[21]

Business Implications

As I have already indicated above, life in an organization whose members believe in the uncertainty of knowledge, and who subscribe to fallibilism, is markedly different from the modern enterprise. In such Open Enterprises, managers continue to manage as they do today, and employees continue to follow their instructions. But in the OE, a different kind of knowledge ethic prevails, according to which even management's ideas, plans, strategies, and operating models are continuously critiqued, tested, and evaluated by stakeholders at large.

Moreover, it's not always only about management's ideas, beliefs, and claims. In the OE, all stakeholders, especially employees, even at the lowest level of rank, are engaged in the knowledge processing affairs of the organization. Learning and innovation, in terms of what managers ultimately decide to do or what actions to take or strategies to adopt, are open to influence from all precincts. Managers continue to own and control decision making, but their monopoly on *knowledge* making is repealed.

How to operationalize this vision is of extreme importance to this discussion, for in addition to theory we need a solid basis for action and a vision of how an enterprise would operate in accordance with fallibilism. With this in mind, there are two areas of implementation for TNKM: *social processes* and a *technology infrastructure*. I briefly discuss these two areas of focus below.[22]

On the social side of things, open discourse is everything. A quest for high-performance individual and collective learning and what Popper called Critical Rationalism, the doctrine that all human knowledge is irreparably fallible, should translate into social institutions and certain *rights of rational criticism*, if you will, that pervade the organization. What this means in practice is threefold:

1. Individuals and groups should be free to pursue learning agendas of their own choosing as a counter-balance to management-mandated training. Their rights to invoke this 'right' should be inviolate.
2. The formation and operation of self-organizing Communities of Learning, Practice, Inquiry, or what have you, should be encouraged and held up as a standard of excellence and corporate citizenship – organizational resources, programs, funding, etc. should be prioritized and allocated accordingly. Employee rights to invoke this 'right' should also be inviolate.
3. Openness in the conduct of the formal management and governance affairs of the organization should be aggressively transparent and inclusive. Exceptions to enforcement of this principle should be confined to the protection of legal privacies, security considerations, and the preservation of legitimate competitive advantages. All such exceptions invoked by management, however, should be subject to board oversight and clearly defined and publicly inspectable criteria, as well to private oversight by a cross-section of stakeholders chosen in accordance with regulated criteria and procedures.

The result of the combination of these three principles is that not only are organizations more innovative and adaptive, they are more accountable as well. *The New KM* is, therefore, just the antidote we need to counter the likes of Enron – and others of that ilk – in the future. This is why, as I have said before, *The New KM* is uniquely equipped to help corporate America deal with its corruption and accountability woes[23]. It's not just about misbehavior; it's about the quality of the *knowledge processing climates* that lie behind it, and which precede and account for behavior, in general!

On the technology side of things, the picture there is most interesting. Let me preface my comments here by pointing out that the commercial potential for software development companies vis a vis *The New KM* are staggering. Let me also point out that the vision of what I am about to share has been (a) pioneered by my colleague Joe Firestone, (b) widely described by him in his own writings over the past few years, and (c) clearly specified by him in the distinction he makes between Enterprise Knowledge Portals and Enterprise Information Portals – the former being a sub-type of the latter[24]. More on this appears below.

Earlier I said that what makes TNKM so unique, among other things, is the extent to which it relies heavily upon Knowledge Claim Evaluation (again, see Figure 1). What this means in practice is that inhabitants of Open Enterprises, since they take no truth for granted, routinely look for the record of tests and evaluations behind anything held out as 'knowledge' or as 'true.'

Translation? Let's take *best practices*, for example[25]. I was a partner at KPMG, and while I was there, we instituted a best practices system on-line, in which the presumed best practices for, say, writing proposals, conducting engagements, and dealing with clients were codified on a centralized system. Much of what was contained in that system was, of course, dubious. Nonetheless, it represented the best authoritative guess at the time. The problem, though, was that it was only management's guess (and/or its

designates). But it was still a guess, as is all knowledge according to the fallibilist point of view.

This is where things break down. Rather than make it possible for employees to objectively and openly criticize so-called 'best' practices, we codify them under the justificationist imprimatur of management, and demand that they be followed. Never mind if the ideas behind them are false. Instead, we content ourselves to wait until either (a) we fail under the weight of their errors, or (b) management, our paternal surrogate learner, eventually comes around and detects the errors itself, followed then again by the adoption of yet another (new) set of best (or is it better?) practices.

Firestone's concept of Enterprise Knowledge Portals offers a unique solution to issues like *best practices*. In addition to being a resource for cataloging claims related to 'best' this or 'best' that, an Enterprise Knowledge Portal (EKP) also makes it possible to attach *metaclaims* to each such claim. Thus, the dominant objects in an EKP are pairings of claims and their corresponding metaclaims. This, then, is the primary distinction between an Enterprise Information Portal (EIP) and an Enterprise Knowledge Portal (EKP). An EKP is an EIP that supports the production and use of metaclaims. What, then, is a metaclaim?

A metaclaim is a claim about a claim[26]. In the present context, it is a record of a particular claim's performance when used or followed by others in the past. In other words, a metaclaim is the record of testing and evaluation that arises from the use of claims about best practices. So in an EKP, a best practice claim would always be accompanied by its record of performance so that new, would-be users of it can judge for themselves how well, or not, it has actually performed in the past, and whether or not it might be suitable for present or future purposes.

Here, it is interesting to point out that the record of performance for a claim may not always be positive. Still, this can be of enormous value to us. As another of my colleagues, Mark A. Notturno, points out, what we really should be looking for in our attempts catalogue claims about practices is not so much a record of 'best' practices, but a record of 'worst' practices instead[27]. It is better to support learning from our mistakes than it is to pretend that we have ever somehow arrived at the truth.

In any case, I believe that Firestone's vision of the EKP is of profound importance to KM and to business, in general. The EKP is the technology component of *The New KM*. Its focus on the management of metaclaims is unique in the field, and it is this focus which will allow us to operationalize TNKM's hallmark concentration on Knowledge Claim Evaluation. And that is precisely what is needed to fully operationalize fallibilism in business on an enterprise-wide basis, a system in which knowledge is continuously subjected to our tests and evaluations; a system in which errors are systematically identified and eliminated; and a system in which everyone, not just managers, participates in the knowledge processing, learning, and innovation affairs of the organization.

One final word on Firestone's vision of the EKP is warranted before I close. Although there are no commercial implementations of his concept on the market, all of the

technologies required to pull it off exist. Even the metaclaims piece, which at first sounds untenable given the level of effort that might be required to manually create and codify related content, is available. Thanks to advances made in semantic network analysis, neural networking tools, and intelligent agents, metaclaim data can be captured and codified automatically online with minimal human intervention, thereby making the promise of the EKP completely realistic and feasible. This is just the kind of technology required to support the social institutions side of the Open Enterprise – that and a pioneering entrepreneur, of course, to invest in the development.

Summary

In the late nineteen-nineties, a new, second-generation school of knowledge management thinking and practice emerged. Unlike its first-generation cousin, which focused only on knowledge sharing and re-use, second-generation KM added to that a new focus on knowledge production. This new concentration on knowledge production forced practitioners to confront the difference between information and knowledge in earnest, and in the process exposed prevailing corporate epistemologies as being largely justificationist at base.

In the 2001–2003 time frame, McElroy and Firestone challenged justificationism as a basis for knowledge management, and began to develop, instead, a fallibilistic approach based on Karl Popper's Critical Rationalism. The result of this application of fallibilism to KM is what McElroy and Firestone refer to as *The New Knowledge Management*, a variant of second-generation KM, which like other forms of second-generation thinking addresses knowledge production, but which *unlike* other such schools rejects justificationism. This is what makes TNKM new, and it is also what makes it unique, powerful, and compelling.

Thus, *The New KM* is a new and distinctive body of knowledge management theory and practice. But it also has an axe to grind in terms of what it hopes to accomplish in the way of organizational outcomes. The name we have given to this organizational outcome, or normative model, is the Open Enterprise (OE). In this light, *The New KM* can be seen as an implementation strategy for the OE. Its goal is to apply a fallibilistic knowledge ethic to the enterprise, according to which managers continue to control and direct resources as they do today, but they lose their monopoly on knowledge processing. Instead, knowledge processing becomes an enterprise-wide affair, complete with the expectation that enhancing and maintaining the quality of organizational knowledge is everyone's business and everyone's responsibility.

But because knowledge processing in organizations is a self-organizing phenomenon, traditional reductionist approaches to managing people and processes won't work. Instead, I and others have devised a deferential methodology that we call the 'policy synchronization method' (PSM). The PSM method is a deferential method in the sense that it begins by acknowledging the autonomy of knowledge processing, and in light of such autonomy focuses on managing the conditions *around* the system of interest (i.e., the social knowledge processing system), and not the system itself.

Using the PSM method as a basis for practice, *New KMers* can shape the policies and programs required to operationalize the Open Enterprise. With this in mind, I and my colleagues have identified eight specific areas of policies and programs, which if properly configured, will support, strengthen, and reinforce the individual, group, and organizational knowledge processing behaviors required to fully exploit fallibilism, enhance organizational learning, and improve innovation. Business performance improves as a consequence.

To support the operationalized social side of the OE, a technology infrastructure can be used of a sort developed by Joseph M. Firestone: the Enterprise Knowledge Portal (EKP). Unique in Firestone's conception of the EKP is its explicit support of metaclaims, or *claims about claims*, produced as a common byproduct of Knowledge Claim Evaluation and knowledge use. An EKP supports the pattern-like behaviors of individuals, groups, and organizations engaged in knowledge processing. Think of it (an EKP) as a kind of *organizational learning prosthetic*.

While commercial implementations of EKPs do not yet exist, all of the technologies required to develop them are readily available. By combining Firestone's conception of an EKP with McElroy's *and* Firestone's vision of a social system enabled by the PSM method, *The New KM's* vision of the Open Enterprise can be achieved.

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[16] The "Policy Synchronization Method" is the subject of a 'Business Method' patent application filed with the U.S. Patent and Trademark Office in September, 2000 by Macroinnovation Associates, LLC of Windsor, VT (www.macroinnovation.com). It currently holds patent-pending status.
[17] Ethodiversity is a term I coined . It is a reference not to the ethnic diversity of an organization, but to its ethos diversity. I define this as *the distribution of values, dominant assumptions, worldviews, philosophies, and politics held by a collection of people in an organization, which, in turn, have impact on their attitudes, predispositions, beliefs, customs, and practices as they go about their daily affairs.*
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[26] See Chapter 5 of Firestone and McElroy (2003a) for a fuller discussion of metaclaims and the role they play in Knowledge Claim Evaluation.
[27] From a speech given by Notturno in Washington, D.C. on March 20, 2002 at *The New Knowledge Management: A Generational Shift* conference.

About the Author

Mark W. McElroy is a corporate epistemologist. He is president of the Knowledge Management Consortium International (www.kmci.org) and CEO his own firm, Macroinnovation Associates, LLC (www.macroinnovation.com). He can be reached at mmcelroy@vermontel.net.