

# Is Knowledge Management Sustainable?

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# I will argue that....

- **Mainstream KM is unsustainable because:**
  1. It fails to differentiate itself from information management (IM), and doesn't take the *information vs. knowledge* distinction seriously
  2. It fails to provide a reference model of any kind for *Knowledge Processing*, the human processes that account for knowledge production and integration (i.e., learning and innovation)
  3. It fails to address the connections between knowledge and risk management, knowledge and corporate accountability, and knowledge and sustainability
  4. It panders to the growth economy, and is therefore unsustainable, because the growth economy *itself* is unsustainable
  5. It is generally intolerant of criticism, such as the claims above

Let's examine each of these claims separately

# 1. Fails to differentiate itself from IM

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- KM speaks in terms of *data vs. information vs. knowledge*, but ignores the differences
- Such differences, therefore, have no real impact on how KM is actually practiced, even though they exist
  - No real distinction made between information and knowledge in solutions designed and implemented by KM
  - No compelling definitions of knowledge as a possible basis for differentiating between KM and IM (information management)
  - No interest, or tolerance for, developments aimed at making the distinction between truth and falsity in business as a basis for KM as a discipline, not to mention for action (see point 5 below)
- KM is as likely, therefore, to create systems that capture and deliver false information as it is true information

# 1. Fails to differentiate itself (2 of 3)

- KM has largely been hijacked by the vendor community (IT), without objection from the KM establishment
- Most of what passes for KM, then, is just relabeled:
  - Data Warehousing
  - Imaging
  - Best Practices
  - Document Management
  - Collaboration
  - Business Intelligence
  - Online Analytical Processing
  - CRM
  - e-Learning
  - Expertise Locators (Yellow Pages)
  - Etc.

This is usually obvious to managers, and so KM's reputation suffers accordingly – *it's seen as a charade*

# 1. Fails to differentiate itself (3 of 3)

- A failure to provide a compelling definition of knowledge, and an equal failure to embrace even the weakest ones
- Consider two influential examples:
  - Knowledge is *“justified true belief”* (Nonaka and Takeuchi)
    - Reduces all knowledge to mental phenomena, thereby rendering meaningless all that KM purports to be doing with *non-mental* content (e.g., documents, computer files, spoken claims, etc.)
    - Suggests that “true” knowledge can be known with certainty – this is dangerous and irresponsible; implies that managers are infallible
  - *“...a fluid mix of framed experience, values, contextual information, and expert insight...”* (Davenport and Prusak)
    - Fails to address the issue of truth vs. falsity
    - For example, is mistaken *“framed experience,”* or illegitimate *“values,”* or false *“information, and expert insight”* knowledge?

## 2. Lacks knowledge processing

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- KM routinely confuses itself (KM) with *Knowledge Processing*, because it fails to recognize the latter
- What is *Knowledge Processing*?
  - The processes people follow and rely on to learn and innovate:
    - Triggered by experiencing epistemic gaps – *a gap between the knowledge they have versus the knowledge they need in order to take effective action*
    - Followed by knowledge production to close such gaps – *generating new knowledge beliefs or claims and subjecting them to tests and evaluations in order to get closest to the truth (i.e., to the belief or claim that will fetch the best results when put into action)*
    - Followed by knowledge integration – *distributing knowledge to others in an organization who also need it*
- These processes are not KM!

## 2. Lacks knowledge processing (2 of 4)

- KM is a management discipline, not a knowledge process – it aims to have impact on *Knowledge Processing*, but is not the same as Knowledge Processing (KP)
- Consider a current definition in mainstream KM:

*“KM is taken as the tools, techniques, and strategies to retain, analyze, organize, improve, and share business expertise”*

**Groff and Jones**

- If this is what KM is, then what are we supposed to call the management discipline that seeks to design, implement, and enhance the things named in the definition?
- “Sharing knowledge” is not the same as “enhancing knowledge sharing” – the first is KP, the latter is KM!

## 2. Lacks knowledge processing (3 of 4)

- KM is not knowledge production, capture, codification, sharing, or what have you – those are knowledge processes practiced by knowledge workers
- KM is a management discipline that tries to enhance them – thus, it is not the same as Knowledge Processing
- This pervasive failure in KM to differentiate itself from its own target of interest leaves us with a field that is fuzzy at best, and which onlookers, such as managers with potential funding, can only conclude is confused
- And because KM has failed to differentiate between information and knowledge in any sort of practicable way, it has also failed to explain knowledge production

## 2. Lacks knowledge processing (4 of 4)

- And without a view – *or a model, or a theory of knowledge production* – KM is reduced to making interventions that treat knowledge and information as if they were interchangeable
- Thus, a KM intervention is just as likely to enhance the sharing of false information as it is true information, since it makes no such distinctions – just as IM does not
- So if KM is the same as IM, and also fails to enhance the quality or personal or organizational knowledge, what does KM bring to the table that wasn't already there the day before?
- And why should managers take it seriously?

### 3. Overlooks key connections between knowledge, risk, accountability, and sustainability

# 3. Overlooks key connections

- KM is almost always positioned in the IT function and is defined in related terms
- As already noted, KM also fails to distinguish between knowledge and information – as typically seen in its popular strategies and solutions
- This all leads to a failure in KM to think in terms of the connections between knowledge and action, or between the quality of knowledge and the quality of action taken when using it
  - IT has nothing to offer for this line of thinking
  - KM's failure to define knowledge in terms of quality (e.g., truth vs. falsity) acts as a barrier to making these connections

# 3. Overlooks key connections (2 of 3)

- But isn't action or behavior in life (and in business) nothing but knowledge in use?
- Can't we then make the connection between knowledge and action in terms that are valid and helpful to us:
  - High quality knowledge leads to high quality action
  - Low quality knowledge leads to low quality action
- Doesn't the quality of knowledge used by people in an organization have impact on:
  - General performance?
  - Risk?
  - Accountability?
  - Sustainability?

*"...a company can't manage its risk today without managing its knowledge."*

Dale Neef

# 3. Overlooks key connections (3 of 3)

- What function, then, is overseeing the quality control of knowledge?
- If not KM, *why not? Who's managing that store?*
- Until KM manages to make meaningful distinctions between (a) information and knowledge, and (b) knowledge processing and itself, no such role for KM will be possible, nor will KM be adding anything of real value to business that wasn't already there before it arrived
- This strongly argues for KM as a fiduciary function that ought to report to the board, which already has fiduciary responsibility for financial processing
  - *Knowledge Processing, too, is vital and requires quality control!*

## 4. Panders to the growth economy

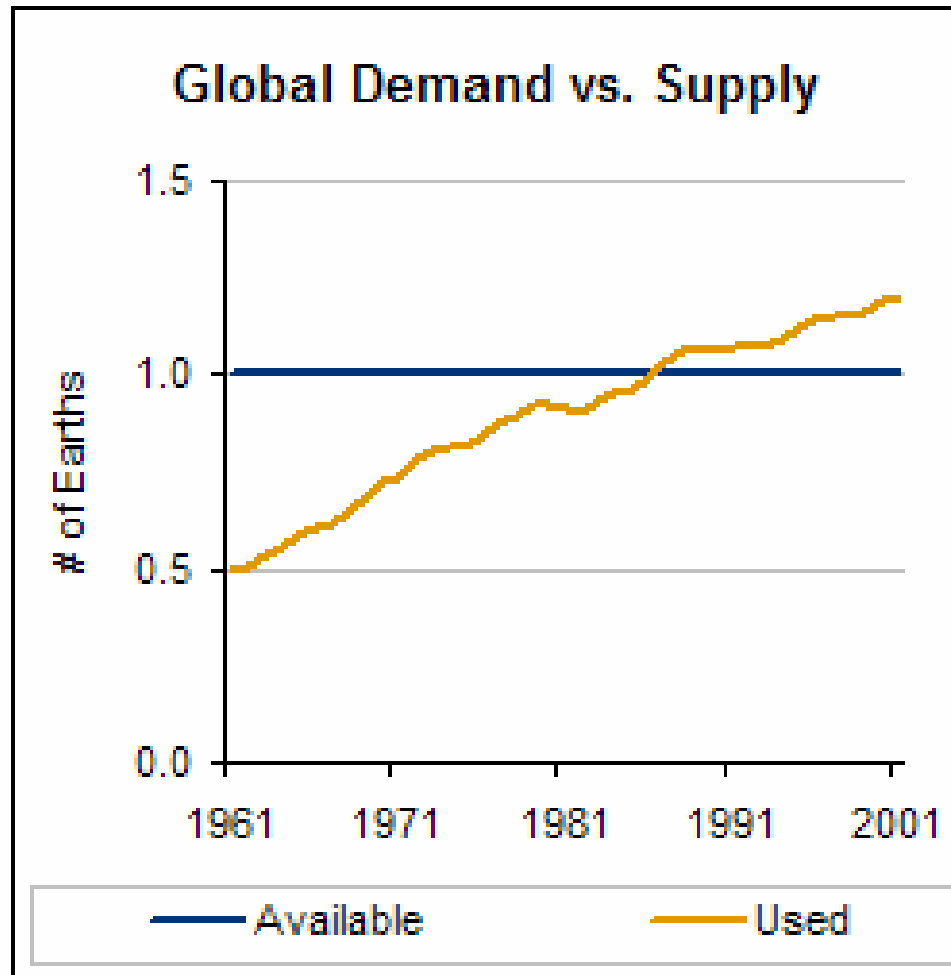
# 4. Panders to the growth economy

- KM methodologies almost always begin with an embrace of current (business) strategy
  - Step 1 is to acknowledge the operational imperatives identified in strategy
  - Step 2 is to identify the information/knowledge required by workers to successfully carry out the operational imperatives
  - Step 3 is to fill information/knowledge gaps if, and where, they exist and to enhance related capture, codification, and delivery capabilities in the service of strategy
- Most businesses, of course, are committed to growth one way or another – strategies are plans for achieving it
- But the growth economy is arguably unsustainable because of its harmful degradation of social, economic, and environmental (natural) capital

## 4. Panders to growth (2 of 8)

- Natural capital, in particular, is being irreplaceably eroded by business and industry
  - Extensive use of non-renewable energy and other resources at rates that exceed the development of renewable alternatives
  - Insignificant use of renewable resources
  - Extensive use of ecological resources/services for waste at rates that exceed the assimilative capacity of related systems
- Researchers believe that the human economy crossed the line of sustainability in (roughly) the late '80s (see next slide)
  - Business has been exceeding the earth's carrying capacity at unsustainable rates ever since
  - Increased growth merely accelerates the damage

## Humanity's Global 'Ecological Footprint'



Source: [www.footprintnetwork.org](http://www.footprintnetwork.org)

## 4. Panders to growth (3 of 8)

- Because behavior in business (and in life) is nothing more than knowledge in use, the unsustainability of behavior in business is, too, rooted in knowledge
- To the extent that KM is an agent of growth-oriented strategies in business, KM is culpable in the unsustainable conduct of business vis a vis the erosion of natural capital, in particular, but also of social and economic capital in many instances
- KM has a potent role to play in either supporting the unsustainable course of business, or reforming it
- But this requires recognition of quality (e.g., truthfulness) as a variable in information, which KM does not admit

## 4. Panders to growth (4 of 8)

- Thus, KM as a discipline would seem to be utterly deferential, if not neutral, to the *content* of strategy, even if the implementation of strategy is harmful to humans and to the earth
- If the conduct of a business is unsustainable because of the unsustainability of the operations specified in its strategy, then management disciplines, such as KM, that uncritically work to see them fulfilled are themselves unsustainable
- This is especially true for a discipline like KM, which has so much influence over the content of knowledge used by workers, since behavior is merely knowledge in use

## 4. Panders to growth (5 of 8)

- Because KM has failed to make a clear distinction between knowledge processing and itself (per issue 2), it has also failed to recognize that not all patterns of *Knowledge Processing* are themselves sustainable
- This insight gives rise to the notion of *sustainable learning*, or *sustainable innovation*, which are synonyms for sustainable *Knowledge Processing*
- What KM tends to do, in fact, is build and reinforce unsustainable organizational learning, or *Knowledge Processing* systems....
- ...which, in turn, cater, uncritically, to unsustainable business strategies in the growth economy

## 4. Panders to growth (6 of 8)

- What, then, is ‘unsustainable *Knowledge Processing*,’ or unsustainable learning or innovation?
  - A system which subjects competing beliefs or claims in an organization to managerial control as a source of authority or justification – this is the Nonaka & Takeuchi approach earlier discussed (a form of ‘justificationism – notoriously flawed)
  - A system which organizes organizational learning in the form of hierarchical or centralized structures, and which ranks the quality of ideas according to their place of origin in the hierarchy, and which also tends to marginalize or exclude middle- and lower-level workers from participating in formal *Knowledge Processing* activities, because of their subordinate hierarchical standing
  - A system which conflicts with the emergent, bottom-up manner in which knowledge normally grows in open social systems

## 4. Panders to growth (7 of 8)

- Because unsustainable *Knowledge Processing* systems in organizations tend to result in dysfunctional learning (which, in turn, lead to dysfunctional and unsustainable behaviors), KM strategies that create and maintain such unsustainable *Knowledge Processing* systems are themselves unsustainable and ought to be abolished
- Unfortunately, this description fits KM in most of its mainstream forms
- KM is therefore not only unsustainable, but contributes to the unsustainability of the businesses and strategies it serves in the growth economy
- Mainstream KM is bad for business and bad for people

# 4. Panders to growth (8 of 8)

- What we need, instead, is a form of KM that:
  - Is deeply rooted in the connections between knowledge and action and which practices a kind of ‘knowledge ethic’
  - Recognizes the distinction between information and knowledge along with quality as a key variable in both
  - Refuses to pander to any set of beliefs or knowledge claims that systematically block people from learning, and which instead...
  - Prioritizes the design, implementation, and support of high-performance knowledge processing systems in organizations that are:
    - Transparent to all stakeholders in the organization
    - Inclusive of all stakeholders in the organization
    - Independent of the authority structures separately in place to control and manage the operating affairs of the organization

# What about the leaders in KM?

- Consider, for example, the 2004 **Most Admired Knowledge Enterprises (MAKE)** award recipients (Source: Teleos – The KNOW Network):
  - Accenture
  - American Productivity & Quality Center
  - Buckman Laboratories
  - Dell Computer
  - Hewlett-Packard
  - IBM
  - Intel
  - McKinsey & Co.
  - Microsoft
  - Raytheon

Let's take a quick, high-level look at these companies, and at how seriously they take issues regarding social, economic, and environmental sustainability

# The leaders in KM (2 of 5)

- Only half of the 2004 MAKE award recipients bother to measure and report on their social, economic, or environmental performance:
  - Dell Computer
  - Hewlett-Packard
  - IBM
  - Intel
  - Microsoft
- All but one of these five companies (Microsoft) prepare their reports utilizing the Global Reporting Initiative (GRI) framework, the leading international standard for corporate social responsibility (and sustainability) reporting – Microsoft has yet to come on board

# The leaders in KM (3 of 5)

- The other five companies who received MAKE awards do no social responsibility or sustainability reporting at all...their impact is huge, but they fail to report:
  - Accenture
  - American Productivity & Quality Center
  - Buckman Laboratories
  - McKinsey & Company
  - Raytheon
- The *American Productivity & Quality Center* is especially noteworthy, since it is a bastion of mainstream KM, and does more than most other players in the field to promote KM in the service of the unsustainable growth economy

# The leaders in KM (4 of 5)

- *Buckman Laboratories*, a perennial hero of practice in KM, is also particularly troubling:
  - It talks about its commitment to a “*zero negative environmental impact*” on its website....
  - ...even as it goes about the manufacture and distribution of products that are patently toxic to people and the environment
    - e.g., some of its pesticide products fall into a category consisting of known or probable [carcinogens](#), [reproductive or developmental toxicants](#), [cholinesterase inhibitors](#), [known groundwater contaminants](#) or [acutely toxic poisons](#)...
    - ...most of which (85% - 90%), when used in agricultural and other applications like all such pesticides, “*never reach target organisms, but disperse through the air, soil and water*” (Moses et al, 1993)
- Still, *Buckman Laboratories* is a “*most admired*” KM firm

# The leaders in KM (5 of 5)

- Then there's *Raytheon*, a company with a long history of social and environmental misconduct (see, for example):

<http://www.gis.net/~larrabee/raytheonwatch.htm>

- **Summary:**

- KM is solely devoted to the fulfillment of strategy in business, especially in the growth economy
- The growth economy, however, is unsustainable
- KM's contribution to the achievement of strategy in business is potentially huge, since it is dedicated to delivering the information workers require in order to carry out strategy
- Mainstream KM, therefore, is dangerous, irresponsible, and unsustainable, as shown by the behavior of many of its "*most admired*" users – *it fuels the unsustainable growth economy!*

## 5. KM is closed to criticism of itself

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- Many of the leading KM listservs and online discussion groups around the world subscribe to *communitarianism*, a type of *Knowledge Processing* that relies on consensus as a basis for knowledge production
- These groups tend to reinforce mainstream thinking in KM, and resist the kinds of criticisms expressed in points 1 through 4 above
- Since they are made up of thought leaders, leading practitioners, and journalists in the field, their influence on KM as a whole is enormous – *though regressive*
- Thus, mainstream KM itself is arguably a model of *unsustainable learning and innovation!*

## 5. KM is closed to criticism (cont.)

- KM's embrace of communitarianism is closely related to its recent fixation on *Communities of Practice* (CoPs)
- But CoPs in KM are largely perverted in the sense that they discourage and condemn conflict and disagreement, and instead tend towards consensus and harmony
- In such CoPs, harmony becomes more important than *learning, truth, or reaching the right conclusion* — to wit:
  - Members are encouraged to enforce the communitarian ethic
  - Leaders are empowered to *ban* other non-compliant members
- For an interesting case study of these behaviors in KM, see: <http://radio.weblogs.com/0135950/2004/06/25.html#a23>

## 5. KM is closed to criticism (cont.)

*“Peace, happiness, and harmony are therefore not necessary properties of a community of practice.”*

Etienne Wenger

The mainstream KM establishment would seem to disagree

Now let's consider what a “new,” more sustainable form of KM might look like, expressed in terms of our five issues

# 1. Knowledge vs. Information

- A new definition of knowledge:

*Knowledge is a tested, evaluated and surviving structure of information (e.g., DNA instructions, synaptic structures, beliefs, or claims) developed by a living system to help itself solve problems, and which may help it to adapt.*

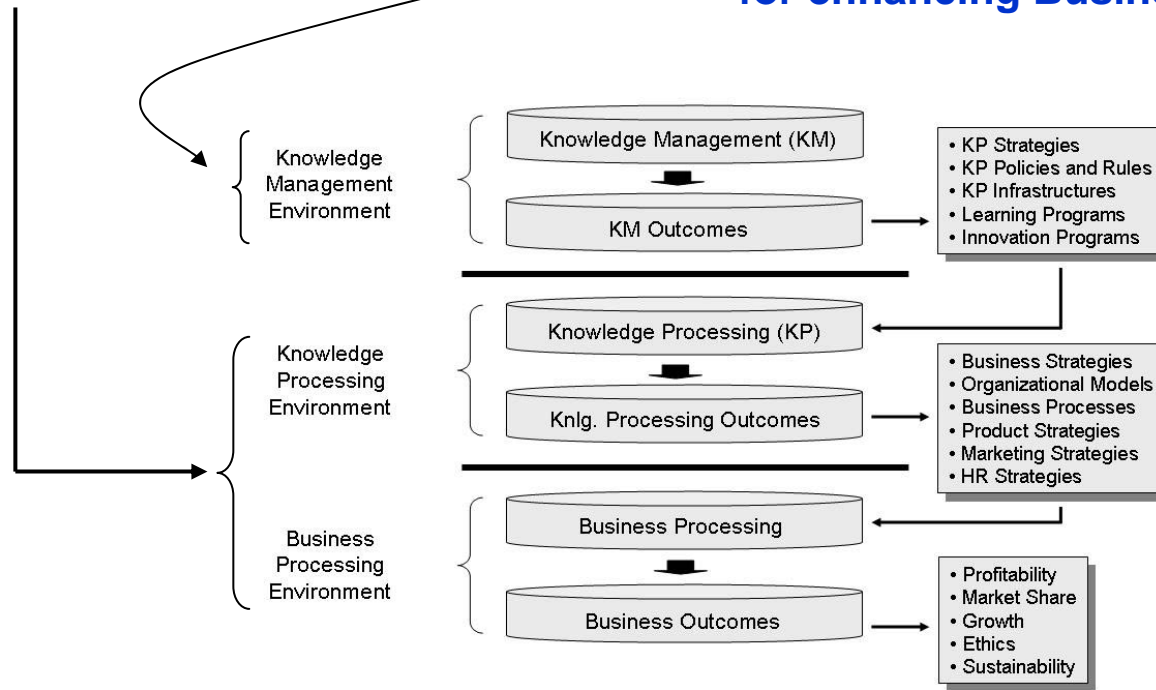
**McElroy and Firestone**

- Its advantages:
  - Relates knowledge to information – *knowledge is a type of information that has survived our tests and evaluations*
  - It is information that we believe or say may be true, and which may help us to adapt if we use it – *“may” because we’re fallible*
  - Embraces not just mental knowledge, but linguistically expressed knowledge too (written, spoken, etc.), and genetic

# 2. KM vs. Knowledge Processing

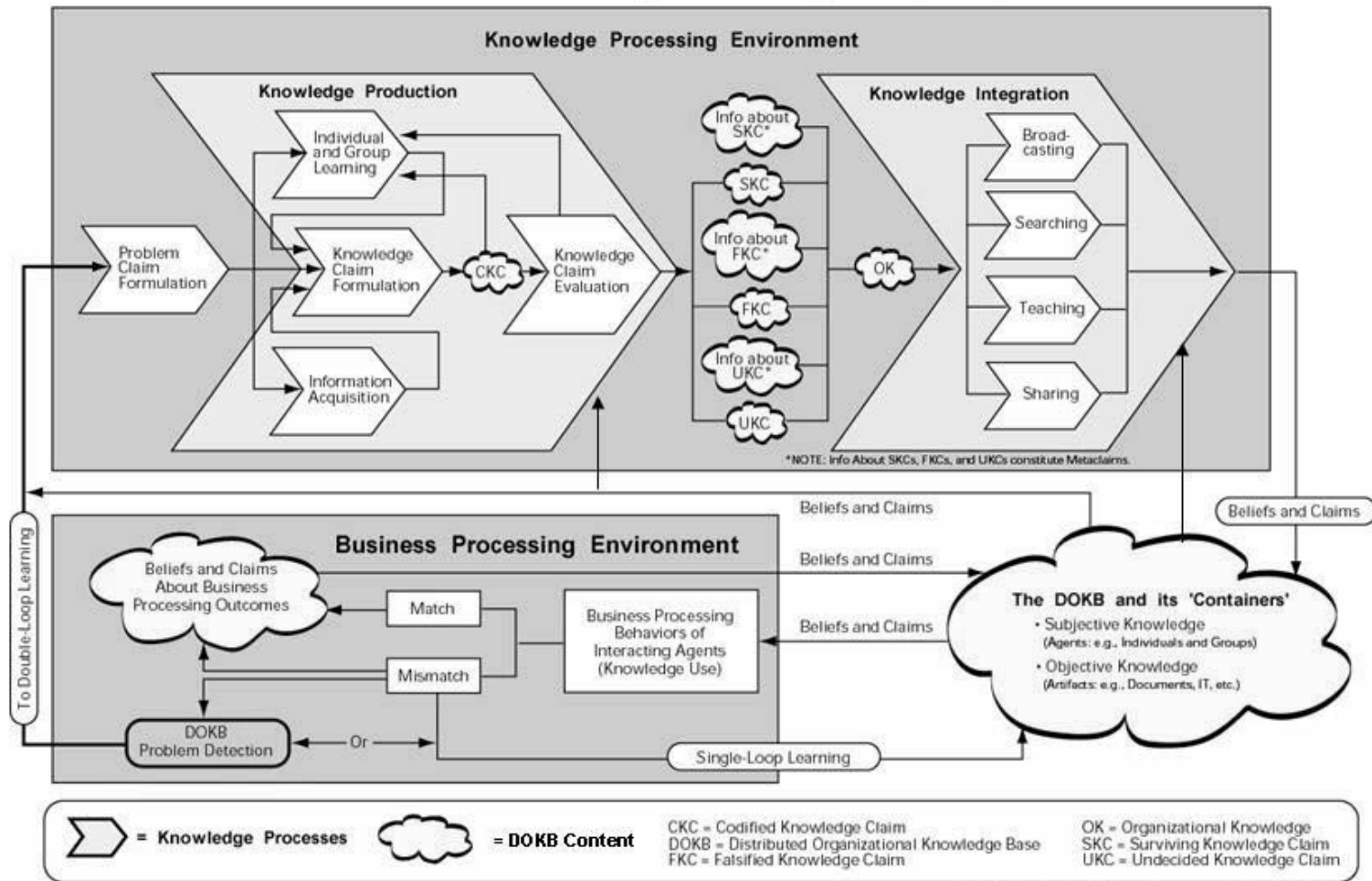
A new reference model that distinguishes learning-related Knowledge Processes from other Business Processes...

Then positions KM as a management discipline that focuses on enhancing Knowledge Processing as a strategy for enhancing Business Processing



Source: McElroy and Firestone

## The Knowledge Life Cycle (KLC)



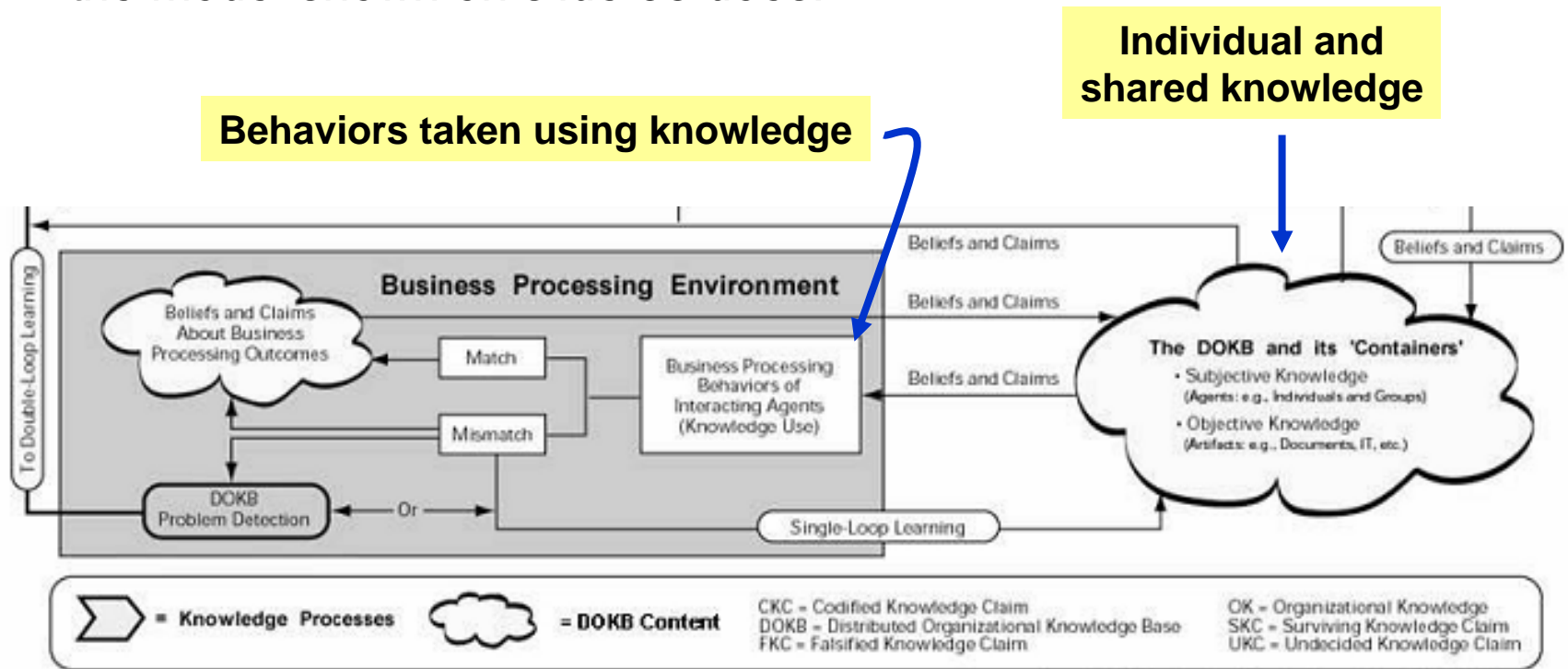
Having illuminated the distinction between KM and Knowledge Processing (KP), we can then specify the content of KP as a target for KM strategies and interventions

# Understanding the KLC – A Brief Narrative

- Organizational knowledge is held both 'subjectively' in the minds of individuals and groups and 'objectively' in recorded or expressed form. This is the *Distributed Organizational Knowledge Base* (DOKB) of an enterprise.
- *Knowledge Use* in the *Business Processing Environment* results in outcomes that either satisfy expectations (*Matches*) or fail to do so (*Mismatches*).
- *Matches* reinforce knowledge previously used, thereby leading to its re-use.
- *Mismatches* initially lead to adjustments in Business Processing behavior based on choices made from within a range of pre-existing knowledge in the DOKB – this is *Single-Loop Learning* (Argyris and Schon).
- Successive failures from single-loop learning to produce matches in expected or desired outcomes leads to doubt about and/or rejection of pre-existing knowledge (problem detection), thereby triggering *Knowledge Processing* efforts to produce and integrate new knowledge – this is *Double-Loop Learning* (Argyris and Schon).
- *Problem Claim Formulation*, an attempt to learn and state the specific nature of the detected knowledge gap (or "problem"), is a precursor to *Knowledge Production*.
- *New Knowledge Claim Formulation* follows in response to validated problem claims, with input via *Information Acquisition* and *Individual and Group Learning*, all under the influence of content contained in the current DOKB.
- New knowledge claims are tested and evaluated via *Knowledge Claim Evaluation* using a variety of criteria.
- *Knowledge Claim Evaluation* leads to: (1) *Surviving Knowledge Claims* (i.e., new Organizational Knowledge), *Falsified Knowledge Claims*, or *Undecided Knowledge Claims*, and also produces *information about* each of these outcomes, or *Metaclaims* (altogether, 6 types of outcomes).
- The record of all such outcomes, both the claims themselves and their corresponding metaclaims, become part of the DOKB via several means of *Knowledge Integration*, a mix of 'push' and 'pull' methods, along with the active response of agents to *Knowledge Integration* communications and activities.
- Once integrated into the DOKB, claims and metaclaims become subject to use in *Business Processing*.
- Experience gained from the use of knowledge contained in the DOKB gives rise to new claims and metaclaims regarding knowledge validity and value. The resulting *Beliefs and Claims About Business Processing Outcomes*, in turn, change the DOKB's content and determine its growth.
- The cycle repeats itself endlessly.

# 3. Connections to Actions

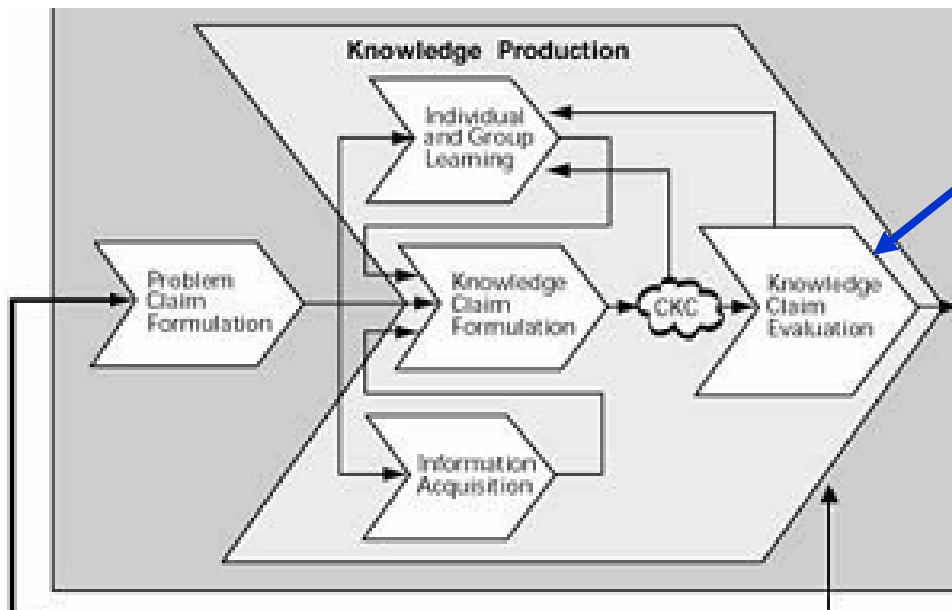
- A good *Knowledge Processing* model should illustrate the connection between knowledge and action, as the lower portion of the model shown on slide 38 does:



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# 4. KM and sustainability

- A good *Knowledge Processing* model should also reflect the manner in which knowledge claims are tested and evaluated as a sub-process within *Knowledge Production*
- Again, the model shown on slide 38 does this:



**Knowledge Claim Evaluation** is the process by which people test and evaluate competing claims against one another – it is the key to sustainability, since it is where and how claims leading to unsustainable behaviors can be rejected before being put into use

## 4. KM and sustainability

- In addition to performing *Knowledge Claim Evaluation* tests with sustainability criteria in mind, the entirety of the *Knowledge Processing* system must also be sustainable, in the sense that it:
  - Is otherwise devoid of implicit or explicit argumentative fallacies, such as *Knowledge Production* on the basis of:
    - Appeals to authority (management is always right)
    - Appeals to the majority (consensus determines truth)
  - Is operationally open and authentic, in that it is transparent and inclusive of all stakeholders in the *Knowledge Processing* cycle, so that *Knowledge Processing* can occur in a bottom-up, emergent, and self-organizing way, and not just in a top-down, structured, and authoritarian form

## 4. KM and sustainability

- This all means that KM (and the management of organizational learning and innovation) must be carried out with sustainability in mind, *both within innovation itself and by means of innovation*
- We call this concept *Sustainable Innovation*
- It is predicated on the view that not only are material innovations and the ways we produce and use them variably sustainable, but so are the patterns of innovation *behaviors*, themselves, variably sustainable too
- *Sustainable Innovation* is therefore a pre-condition for sustainability in business, and *Sustainable Innovation* is best accomplished when we practice it deliberately

# 5. Self-criticism in the field of KM

- Two fully “open” online discussion groups in KM are managed and administered by the *Knowledge Management Consortium International* ([www.kmci.org](http://www.kmci.org)):
  - KMCI Virtual Chapter
  - KMCI Best Practices Group
- Both can be accessed at: [http://www.kmci.org/kmci\\_resources\\_and\\_links.html](http://www.kmci.org/kmci_resources_and_links.html)
- They run on three simple rules:
  - No personal attacks will be posted
  - No gratuitous labeling (i.e., without explanation) will be posted
  - No ad hominem arguments
- But no participant in either list is ever banned
- KMCI calls these “Communities of Inquiry,” a type of CoP

Are there any examples of *Sustainable Innovation* (and KM) in the world today?

# Examples of *Sustainable Innovation*

- Two come quickly to mind
  - Partners HealthCare
  - Forest Service Employees for Environmental Ethics
- Partners HealthCare
  - Originally revealed in a *Harvard Business Review* article written by Tom Davenport and John Glaser (July, 2002)
  - Subsequently analyzed further and described in a forthcoming article by Joe Firestone and Mark McElroy in *The Learning Organization* journal: “Doing Knowledge Mgmt.” (April 2005)
  - Article is now posted at the following URL:

[http://www.macroinnovation.com/Doing\\_KM.pdf](http://www.macroinnovation.com/Doing_KM.pdf)

# Examples (cont.)

- Forest Service Employees for Environmental Ethics
  - A striking example of a highly formalized, and well organized, *Knowledge Processing* system that is open to, and inclusive of, all Forest Service employees and other stakeholders
  - Regularly undertakes open testing, evaluation, and criticism of management's policies and actions in the Forest Service, which are published on a quarterly basis in a magazine format
  - Clearly has influence on management's policies and actions
  - All employees encouraged to participate in the discussions, and to be mindful of their rights to do so:

See “Guide to Free Speech” at [www.fseee.org](http://www.fseee.org)

- This is perhaps the best illustration of *Sustainable Innovation* I know of – sustainability *both within and by means of* innovation!

# Summary and Conclusions

- Mainstream KM is unsustainable because:
  1. It fails to differentiate itself from information management (IM), and doesn't take the *information vs. knowledge* distinction seriously
  2. It fails to provide a reference model of any kind for Knowledge Processing, the human processes that account for knowledge production and integration (i.e., learning and innovation)
  3. It fails to address the connections between knowledge and risk management, knowledge and corporate accountability, and knowledge and sustainability
  4. It panders to the growth economy, and is therefore unsustainable, because the growth economy *itself* is unsustainable
  5. It is generally intolerant of criticism, such as the claims above

Exceptions can be found, but they are not mainstream

# Thank You

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