Dedication

This guide is dedicated to all those wonderful people who share online and whose ideas have informed, inspired or connected with my thoughts on PKM.

Lilia Efimova
Denham Grey
Dave Pollard
Dave Snowden
Tim Kastelle
Nick Milton
Jack Vinson
Luis Suarez
Ross Dawson
Hugh Macleod

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+ Mark Brewer - Jim McGee - Stephen Downes - Fiona Quigley - Carole Calenso-Fair
Do not wait to take control of your professional development

What happens when freelancing becomes the norm?

The US is no longer an industrial-based society where you can count on having a job for life and a sparkly new watch at your retirement party. (And forget about that pension.) According to the Freelancers Union, one in three workers are now toiling as freelancers, temps, “permalancers”, perma-temps, contractors, contingent workers, etc. That amounts to some 42 million freelancers in the US – people who are working without the benefit of employer-sponsored health insurance, 401k plans and flexible spending accounts. – How America is becoming a nation of freelancers

Meanwhile in the UK, self-employment is on the rise.

Self-employment rose by 101,000 to 4.12 million in the three months through November and accounts for 14.1 percent of total employment, figures released by the Office for National Statistics today show. It has grown about 8 percent since the start of the recession in 2008, while the number of employees has fallen 3 percent. – UK self-employment driven by desperation

The automation and outsourcing of work is becoming our wicked problem to deal with as we move into the network era. Most workers have no control over the economy or the changes in the means of
production. They just have to roll with the punches, which are coming faster and faster. However, there is one area where workers can take control; relatively easily and inexpensively. **They can take control of their professional development.**

Most recruiters will tell you that the time to build your network is before you become unemployed. It’s the same with professional development. If the only knowledge-building activities you do are ones mandated by your employer, then you may be in trouble. Developing a network of thoughtful people who can help in your professional life would be a good start.

If you think there is a possibility of spending some time in the future as either unemployed, contractual, or freelancing, then now is the time to build a professional development network. Seek out people who can help you; begin habits of regular sense-making activities; and start to share, because only by sharing will you meet the people you should be seeking in the first place. PKM, personal knowledge management, is a framework that can help you take control of your professional development.
A personal learning journey

I became interested in knowledge management (KM) as I was introduced to it around 1993 while practising instructional systems design (ISD) and human performance technology (HPT) in the military. In 1998 knowledge management was part of our solution suite at the Centre for Learning Technologies at Mount Allison University.

The Centre for Learning Technologies is an applied research, consulting and resource centre for the use of new media in learning, knowledge management, and workplace performance support.

I continued to work with enterprise knowledge repositories and KM related projects until I started freelancing in 2003 and was faced with the challenge of creating my own knowledge management system with a minimal budget. Luckily the web had evolved and there were consumer alternatives to enterprise systems. I became a consumer and simultaneously a sharer of online knowledge.

Lilia Efimova (2004) was one of my earlier inspirations:

“To a great extend PKM [personal knowledge management] is about shifting responsibility for learning and knowledge sharing from a company to individuals and this is the greatest challenge for both sides.”
This still sums up the core concept of PKM. As a free agent it was rather easy for me to take responsibility for my learning and knowledge sharing, but it is much more difficult for people working within organizational hierarchies. I saw a need for PKM inside all businesses, so I began investigating and practising PKM while reflecting on my own attempts to manage my knowledge.

I had turned my website into my knowledge base (2005) combining blogs, RSS and social bookmarks to help manage my knowledge flows. By explaining my process in public, I hoped to clarify my methods and get feedback from others. I then played with metaphors to explain my emerging processes (2006). Basically, you can take a few free web tools and start controlling your information streams (Input). Then you can file the good stuff somewhere you can always find it (Filing & Sharing).

By 2007, PKM had become my best productivity tool and I had once more revised my processes. My own area of interest was PKM using web tools, though of course a PKM system can be unplugged and offline as well. I was also seeing the similarities of PKM with personal learning environments: PLE. PKM is related to PLE and Personal Learning Networks and they are different ways of addressing similar issues. PKM is focused on workplace learning and professional development.

The need for some type of PKM process for people in many walks of life was becoming clear to me by 2008. However, it is still only part of the solution in creating better workplaces and encouraging critical thinking. Developing practical methods, like PKM can help, but at the same time we need to work on creating and supporting new models of work that are more democratic and human. This means that we...
need to think about and talk about work differently. For myself, I have found that not being a salaried employee has freed my mind in many ways. I know that this is not the answer for everyone, but it’s time to make slogans like, “our business is our people”, a reality.

I forecast (2009) that PKM would be an essential part of workplace learning by 2019, but it now seems that will happen much earlier in many sectors with the cheap abundance of social learning tools.

**Workplace learning in 2019:**

- Much of the workforce will be distributed in time & space as well as in engagement (part-time, full-time, contract mix).
- More learning will be do-it-yourself and gathered from online digital resources available for free and fee. More workers will be used to getting what they need as they change jobs/contracts more frequently but remain connected to their online networks (online/offline won’t matter anymore).
- Work and learning will continue to blend while stand-up training will be challenged by the ever-present back channel. Successful training programs will involve the learners much more – before, during and after.
- Conferences, workshops and on-site training will become more niche and fragmented (smaller, focused & connected online) as travel costs increase and workers become more demanding of their time.
- The notion of PKM will have permeated much of the workplace
- These changes will not be evenly distributed.

I also observed that government managers especially needed to develop ways of prioritizing and coping with information flows while leaving space for real time conversations. In 2009 I wrote 34 posts related to PKM on my blog, as it was becoming evident that there was a need and an interest. I came to the conclusion that PKM was our part of the social learning contract as we increasingly engage in online professional and learning networks.

In 2010 I engaged with the KM community and gained many insights talking about PKM on Twitter: “I am more convinced now of the importance of PKM (or PKSharing) in getting work done in knowledge-intensive workplaces. It is a foundational skill, of which only the principles can be formally taught, and like any craft it must be practised to gain mastery.”

I will continue to explore better ways to manage information, encourage reflection and share what we are learning. Technology plays a role in this but changing attitudes is the key. Learning is a process, not a discrete event and it needs to become part of the work flow, not directed by a separate department, with a separate budget that is itself separate from the work that has to be done. Encouraging and supporting PKM is one part of this.

**PKM in a nutshell**
Introduction
A personal learning journey

I Seek
I Sense

enhanced serendipity

We Share & Use

community

PKM - Harold Jarche
Personal Knowledge Management (PKM) is a way to make sense of information and experience. It is a way to deal with ever-increasing digital information and requires an open attitude to learning and finding new things (I Seek).

PKM is the development of processes for filing, classifying and annotating information for later retrieval. It aids in observing, thinking and using information & knowledge (I Sense).

PKM uses open systems that enable sharing with others (We Share).

You know you are in a community of practice when your practice changes. (We Use).

PKM prepares the mind to be open to new ideas (enhanced serendipity).

**PKM = Attitude**

Let’s face it, people are more interested in their own knowledge than in the organization’s knowledge. So why is there so much effort on organizational knowledge bases? Workers need tools and processes to make sense of information on their terms, or it just won’t stick.

PKM is more about attitude than any given tools. My system using feed readers; blogs; micro-blogging; and social bookmarks works for me especially because I have got into the habit of writing down my thoughts in a public forum. This develops into some interesting conversations about things that matter to me at the intersection of learning work and technology. PKM is personal.

**PKM Unplugged**

Jerome Martin wrote a chapter on Personal Knowledge Management for the book, Managing Knowledge: Case Studies in Innovation (2000). Jerome made these suggestions for PKM:

1. Spend time with creative people
2. Go to conferences that are fascinating and apparently irrelevant
3. Learn about a new area
4. Travel
5. Read voraciously
6. Create a private personal knowledge web resource
7. Tell your story

This list shows that PKM is not necessarily a web-only affair. Let me note that my experience disagrees with #6, as I have found that you get more value with a public than a private knowledge resource. Recommendation #7 is much easier today with blogs and other web sharing platforms.
Seek Sense Share

Here is my working definition of personal knowledge management:

PKM: a set of processes, individually constructed, to help each of us make sense of our world, work more effectively, and contribute to society.

Some Key Considerations:

PKM is part of the social learning contract.
PKM works best when knowledge is shared.
Organizational Knowledge Management (KM) is dependent on effective PKM processes.
Standardizing PKM destroys it.

Seeking is finding out who and what to connect to. Seeking out interesting people who share their knowledge and insights is a good start. It is also finding the right way to express your thoughts in the sense-making process. Not everybody is a blogger. Some people may prefer making diagrams or art work or even cartoons. These are all valid expression media. Expression through video or audio are simple and cheap to do and many people are using YouTube as their expression medium of choice.

When we seek, we also filter, because we cannot read everything that passes by or watch every explanatory video available. We can use judgement-based criteria, from Naive (based on our own lack of understanding) to Expert (based on those who know). We can also use Networks, or the opinions of many experts to help us filter. By participating in professional online networks, like Twitter groups, our information is constantly filtered. A diverse group ensures that it doesn’t suffer from group-think, so be selective in network participation.

A critical part of PKM is in personalizing information and experience. It’s personal curation. Here are five ways suggested by Ross Dawson to add value to information:

• Filtering: separating signal from noise, based on some criteria.
• Validation: ensuring that information is reliable, current or supported by research.
• Synthesis: describing patterns, trends or flows in large amounts of information.
• Presentation: making information understandable through visualization or logical presentation.
• Customization: describing information in context.
How do I Start?

One of the important aspects of PKM is triage, or sorting. It’s the ability to separate the important from the useless. Unfortunately, what you may view as useless today could be quite important tomorrow. Developing good triage techniques takes time and practice.

**Categorizing:** Once we’ve found something of interest or value, we will need to categorize it. The big change with the Web is that we no longer have to put one object in one file folder, as we did with a physical object or even on your computer desktop. Today, everything is miscellaneous. Tags are labels that can be attached to digital knowledge objects and an objects can have many labels. That means that we can have as many categories as we want.

*Tools: Feed Readers; Social Bookmarks;*

**Making Explicit:** There are many ways of making knowledge explicit. We can talk about it, write about, engage in debate, create a video or even develop a hypothesis. The act of making it explicit provides the discipline necessary to examine our thought processes.

*Tools: Writing; Audio; Video; Slides; Photos*

**Going Public:** Even more powerful t

Han making our knowledge explicit is to make it public. This can start some interesting conversations about things that matter to us. Going public makes our professional knowledge much more personal. It also encourages peer discussions and reinforces the outward looking aspect of personal knowledge.
management.

Tools: Social Networks; Micro-blogging; Blogging; Podcasting; Slidesharing; Photo Sharing

Retrieval: The importance of retrieval becomes more obvious with the passing of time. As years of sorting, categorizing and making explicit develop into a large amount of information we can begin to see its value. These are our thoughts and ideas but they are connected to the ideas that sparked them and have been reinforced or questioned by our peers. The great benefit of using digital tools and Web platforms is that we can retrieve our knowledge artifacts (or information that has special meaning to us) anytime and anywhere. That’s quite a powerful professional asset.

Tools: When selecting tools, take note of who owns your data & how you can retrieve it later. Do you own the data? Can the data be exported and used on another platform?
PKM is not a technology

My definition of personal knowledge management is quite short:

**PKM: A set of processes, individually constructed, to help each of us make sense of our world, work more effectively, and contribute to society.**

PKM is not a technology, an enterprise system, a piece of software, or a platform. If anyone is selling you a PKM system, they do not understand it. Walk away before you waste your money. The best technology for enabling PKM is the Internet. People don’t need anything else, other than getting rid of barriers that impede their learning. These barriers include social media policies, firewalls, inefficient work practices, defining people by their job, and many others, too numerous to name. Usually the barriers stem from the organizational structure or from management.

For me, PKM really means:

**Personal** – according to one’s abilities, interests & motivation (not directed by external forces).

**Knowledge** – connecting information to experience (know what, know who, know how).

**Management** – getting things done [not being managed].
It is not PKM if there is no additional value created. In other words, PKM is not about collecting things and filing them away, no matter how fancy it looks on some software platform. PKM is creating a sense-making process that works for you, and that you regularly use. PKM is beyond the workplace, just as workers are not always at work, but are always learning.

For me, it’s using writing, particularly here on my blog, to make sense of concepts, theories, experiences, and opinions related to my professional life. Sometimes my non-professional life gets involved, and that's just fine with me. For you, it’s probably something else, and that is the wonderful thing: there is no single PKM system for all. People practising PKM, in their own ways, add to the diversity of thinking in organizations and society. A single system would kill diverse thinking, which in turn would destroy any potential for change or innovation.

Why is PKM important?
Research shows that formal training only accounts for perhaps 5% of workers’ learning needs.

Training courses often assume a dependent learner as passive recipient. This can kill creativity and motivation.

PKM builds reflection into our learning & working, helping us adapt to change and new situations. It can also help develop critical thinking skills.

Active PKM practices help to make each person a contributing node in knowledge networks. It is the foundation for social learning, which drives social business.
Barriers to PKM

A while ago I asked my extended online network, “What do you think is the biggest fear/need/barrier when it comes to adopting personal knowledge management (PKM) as a practice?”

Finding someone to talk to about PKM was a common response, as was the observation that management’s perception is often that not everyone has the same level of ability to do PKM sufficiently well. Management thinks PKM is only for certain, higher-level employees (it’s not). Also listed were fear of technology and fear of complexity, and I see these as two sides of the same coin. Network technologies make things more complex as there are exponentially more connections and possibilities. The complexity of multiple perspectives and solutions can be quite confusing. In PKM, there is no test and no answer sheet, only deeper questions, but an expanding network to help you.

Some people cited a lack of time management skills to make room in the day for changing and learning. Other listed difficulties in being able to build relationships or dealing with too wide of a range of topics. Perhaps the latter is a byproduct of our education systems where we concentrate on only a few subjects at a time, and seldom make connections between them. One person in our PKM Workshop said that sharing what you really think and finding your real voice is a major challenge for those not used to capturing and sharing their learning.

In my opinion, a major barrier to adopting PKM practices is the perception that it will take more time, when in fact, most people waste a lot of time on existing work habits that could be changed. Another reason is the baggage of our education and training systems, which tell us that we cannot learn for ourselves and need an expert or teacher to always guide us. The image below is from a post I wrote 5 years ago, on what is weighing down learning, based on a post by Albert Ip. Albert refers to the work of William Spady, a somewhat controversial figure in outcomes based learning, but with an interesting take on our current system, which Spady calls an iceberg, weighed down by layers of inertia.
It is still relevant I think. PKM practices can help people take off those weights. You might call it the **PKM Weight Reduction Program for self-directed and peer-supported learning.**
Another way of looking at personal knowledge management processes (there are always many ways to look at it) consists of four internal actions (Sort, Categorize, Retrieve, Make Explicit) and three externally focused ones (Connect, Contribute, Exchange). Personal knowledge management is one way of addressing the issue of TMI (too much information).

A sense-making routine can be regularly reading certain blogs and news feeds, capturing important ideas with social bookmarks and then putting ideas out in the open on a blog. The power of this process is realized after many iterations when you have created a personally contextualized knowledge base. PKM takes the notion of a personal journal and extends it significantly.

Web tools can be used to develop critical thinking skills. Critical thinking is an important aspect of PKM so I created the following table to integrate my PKM process with Dave Pollard’s critical thinking processes. You may have noticed that I’ve changed the order of Retrieve & Make Explicit, but this is an iterative and non-linear process, so it doesn’t really matter.

My own PKM process has changed lately with my increasing use of Twitter and this is noted in the tools and strategies column.

<table>
<thead>
<tr>
<th>PKM</th>
<th>Critical Thinking Process</th>
<th>Web Tools &amp; Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sort</td>
<td>Observe &amp; Study</td>
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<tr>
<td></td>
<td></td>
<td>Use an aggregator (feed reader) to keep track of online conversations</td>
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<tr>
<td>2</td>
<td>Categorize</td>
<td>Synthesize &amp; Qualify</td>
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<tr>
<td>3</td>
<td>Retrieve</td>
<td>Draw Inferences</td>
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<tr>
<td>4</td>
<td>Make Explicit</td>
<td>Form Tentative Opinions</td>
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<tr>
<td>A</td>
<td>Connect</td>
<td>Identify Missing Information (and people)</td>
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<tr>
<td>B</td>
<td>Contribute</td>
<td>Develop Supporting Arguments</td>
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<td></td>
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<tr>
<td>C</td>
<td>Exchange</td>
<td>Analyze &amp; Challenge Arguments</td>
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</tbody>
</table>
George Siemens calls it information management (what I describe as PKM).

I specifically use the term information instead of knowledge. Our encounter with information is one of sensemaking and wayfinding. We encounter a continual flow of information – most of it will never become “knowledge”.

From my perspective, the knowledge aspect of PKM is an emergent property of the activities conducted, many of which are merely information management. A more appropriate term would be Personal Information Management for Sense-making (PIMS?), but PKM is the term I’m sticking with for now. For sure, merely tagging an article does not create knowledge. The process of seeking out information sources, making sense of them through some actions and then sharing with others to confirm or accelerate our knowledge are those activities from which we can build our knowledge. Managing and sharing information, especially through conversations, are fundamental processes for sense-making, as we get inundated with increasing amounts of information.

George describes some key activities and decision points (especially in Selection & Use) in his figure below. These five actions pretty much mirror my own PKM processes.
George says that, “Too many aspects of my sensemaking system are manual”, but I think this is a strength of PKM and other sense-making practices. By keeping them as manual activities we are forced to do something. For me, the act of writing a blog post or a tweet or an annotation on a social bookmark all force me to think a bit more than clicking once and filing or having it served up from an automated system. The weekly routine of reviewing my Twitter favourites and creating Friday’s Finds is another manual routine that I find helps to reinforce my learning and (hopefully) add to my knowledge.

Like George, I’m sure we can get better systems to help us, but for now I find the manual nature of my sense-making is an essential part of it.
PKM as pre-curation

The most important part of **personal knowledge management** (PKM), in my opinion, is the need for active **sense-making**. Merely seeking and sharing information does little other than create more noise online. Sense-making takes time, discipline, and effort.

One strength of PKM is the “manual” nature of sense-making activities. The act of writing a blog post, a tweet, or an annotation on a social bookmark all force you to think a bit more than clicking once and filing it to an automated system. Other sense-making routines, like my weekly review of Twitter favourites and creating **Friday’s Finds**, can encourage reflection and reinforce learning.

Sense-making, or placing information into context, is where the real personal value of PKM lies. The knowledge gained from PKM is an emergent property of all its activities. Merely tagging an article does not create knowledge. The process of seeking out information sources, making sense of them through some actions, and then sharing with others to confirm or accelerate our knowledge are interlinked activities from which knowledge (often slowly) emerges.

**Robin Good** has a similar perspective on curation, as shown on this [mindmap](#) on curation for training & education.

Content curation is NOT the same as social sharing, reposting/retweeting, liking or favoring a specific content item.

Robin says that, “**Curation is about making sense of a topic/issue/event/person/product etc. for a specific audience.**”

The difference between PKM and Curation is that the former is personal, while the latter is for an intended audience. I practice PKM for myself and my blog’s primary audience is me. Sharing online makes it social so that I can learn with and from others. Sense-making (as previously noted by **Ross Dawson**) is the most important aspect in both cases:

**Filtering** (separating signal from noise, based on some criteria)

**Validation** (ensuring that information is reliable, current or supported by research)
Synthesis (describing patterns, trends or flows in large amounts of information)

Presentation (making information understandable through visualization or logical presentation)

Customization (describing information in context)

The connection, in practice, between PKM and curation seems quite obvious to me. I can practice PKM and over time develop a wide variety of knowledge artifacts. For example, I have 2,182 blog posts and 2,858 social bookmarks. These have all been curated by me and for me. However, if I want to curate these artifacts for an intended audience, I can quickly search these artifacts and find suitable resources. I frequently do this for my clients, where I may compile a list of a few blog posts related to some aspect of our project.

I think that people who have a professional PKM framework have some of the skills and knowledge needed to be good curators. Their sense-making processes are already developed. I would consider PKM as a form of pre-curation.
Sense-making  
Active sense-making

For almost seven years, my blog has been where I try to make sense of my observations. I’ve called it my home base. My blog is mostly for me, with half-baked thoughts which I make public in order to share and to learn. Many posts get built upon or edited several times and may become part of a longer article or white paper. Most of what is posted there is raw material. Much of the nuance or context is in the flow of the conversations here over the years. The process is often more important than the product.

In my Seek<Sense><Share model, seeking and annotating information is important but cannot stand on its own. As much as I may add feeds into my RSS reader, bookmark web pages or upload photos, these are nothing more than senseless digital constructs until I put them to use. Seeking information is an important foundation to PKM online but it’s of little use without action. The sense-making part of the process requires action and it takes practice to be good at it. How to make sense of one’s experiences is up to the individual. Sense-making is an activity, a regular practice. It can be as simple as creating a list (Filtering) or as complicated as a thesis (Customization). People with better sense-making skills are able to create higher value information and when this is shared, they contribute to their networks. This strikes me as the core of collaborative knowledge work.

I added a sense-making activity in 2009 when I realized I was losing track of what I was finding on Twitter. I could have saved interesting tweets to my social bookmarks but instead I decided to do a weekly review of what I had found. This requires little effort during the week, other than clicking the “favorite” star. At the end of the week, I re-read these tweets and their links and then decide which ones are still of interest. The activity of reading, writing and perhaps commenting helps to internalize some of the knowledge. The result is “Friday’s Finds” and a byproduct is that some other people find it interesting and useful as well.
The PKM value-add

Cristina Milos once posted that; “Curating is different from aggregating information. That is why I am not a fan of Paperli or Scoopit.” The curation craze has been assisted by an increasing number of web platforms that enable easy sharing (with emphasis on the word easy). But what value do they really provide, aside from another platform to sell user data or advertising?

The most important aspect, and difficult to manage, aspect of PKM is active sense-making. Merely seeking and sharing information does little other than create more noise online. The sense-making part takes effort. It’s why so few people keep at blogging for years, because it takes work.

But sense-making, or placing information into context, is where the real personal value of PKM lies. The knowledge gained from PKM is an emergent property of all its activities. Merely tagging an article does not create knowledge. The process of seeking out information sources, making sense of them through some actions, and then sharing with others to confirm or accelerate our knowledge are interlinked activities from which knowledge (often slowly) emerges.

One strength of PKM is the “manual” nature of sense-making activities. The act of writing a blog post, a tweet, or an annotation on a social bookmark all force you to think a bit more than clicking once and filing it to an automated system. Other sense-making routines, like a weekly review of Twitter favourites and creating Friday’s Finds, encourages reflection and reinforces learning. Automating sense-making is antithetical to the rationale behind PKM.

- Personal – according to one’s abilities, interests & motivation (not directed by external forces).
- Knowledge – connecting information to experience (know what, know who, know how).
- Management – getting things done.

It's not PKM if there is no value created.
How blogging changed my life for the better

I guess I could be described as a hardcore blogger, as I’ve been doing it for over eight years. The cartoonist, and author of *Freedom is blogging in your underwear*, Hugh MacLeod asked about the importance of blogging.

Like I said many times before, for those of us crazy enough to take it seriously, **blogging matters, so does freedom, that’s why I wrote the book.** And yeah, we have a duty to convince those less fortunate than ourselves to give it some more thought.

1. I live in Sackville, New Brunswick, Canada; population 5,000. Even our timezone (Atlantic Time) is unknown to many people. Without my blog, nobody would ever have heard of me. This Spring, I have four speaking engagements out of town (Montreal, Ottawa, Washington DC, Rome). Without my blog, I am sure that IEEE and many other organizations would not have invited me to speak.
2. My blog is a key part of my professional development and essential to my personal knowledge management processes. It’s how I make sense of many things. My blog keeps me connected.
3. I initially met my business partners at the Internet Time Alliance through my blog. That was a very good thing!
4. My blog has allowed me to connect to people all over the world. This year alone, I have had visitors from 168 countries. It means that I can often travel to a new city and already know someone at my destination.
5. In addition, my blog gives me (just a little bit of) credibility with the much younger digital generation 😊
Join the party

Imagine walking into a cocktail party that has been going on for a few hours and jumping into the conversation. Blogs and activity streams (e.g. Twitter) are like that. They flow along and different people join in the conversation from time to time. One can monitor dozens of blogs and hundreds of streams, not necessarily reading each post. You can then have a general idea of what’s flowing by, so that it’s easy to join the conversation when something interesting pops up.

To use blogs and streams for learning effectively, you have to jump in and go with the flow for a while. Understanding what is behind the writing, as well as the conversations around each post, provides the necessary context. Learning with online media isn’t just about finding a useful fact here or there, but requires an engagement with multiple stories that flow by, sometimes mixing and other times diverging. Following these flows is an acquired skill. It’s a meta-learning skill for the network era that is worth developing. Jumping in is the first step.
Sense-making through conversation

Nick Milton on another great Boston square pulls “apart the KM world on dimensions of Knowledge Push and Knowledge Pull (which you might call “Sharing” and “seeking”), and the dimensions of Explicit and Tacit. We get 4 quadrants, which we could call Ask, Tell, Search, Share.”

The similarity to PKM with its seek/sense/share processes had me look back on that for any additional insights from Nick’s Boston square (my additions in red).

Sense-making consists of both asking and telling. It’s a continuing series of conversations. We know that conversation is the main way that tacit knowledge gets shared. So we continuously seek out explicit knowledge, in the form of written work or other knowledge artifacts left by others. We then have conversations around these artifacts to make sense of them. Finally, we share new, explicit knowledge artifacts which then grow our bodies of knowledge. Sharing closes the circle.

This square is a good model to look at our own processes. Is the (limited) time we spend on PKM well-balanced between the four activities? Missing one of them completely would destroy most of the value in any PKM process. Seeking and sharing information without any conversation around it would only serve to create additional noise with no signal. It’s the individual context, gained through conversations, that provides the real value. This is why narrating our work and making it transparent (shareable) is so important in the creative, networked workplace. It’s how the organization makes sense, from multiple conversations.

The social learning contract

It is becoming more difficult to make sense of the world by ourselves. Understanding issues that affect our
lives takes significant time and effort, whether it be public education, universal health care or climate change. Even the selection of a mobile phone plan requires more than mere numeracy and literacy. We need context to understand complex issues and this can be provided by those we are connected to. The reach and depth of our connections become critical in helping us make sense of our environment and to solve problems. Problem-solving is what most people actually do for a living, so doing it better can have widespread effects. With social learning, everyone contributes to collective knowledge and this in turn can make organizations and society more effective in dealing with problems.

**How does personal knowledge management relate to social learning?**

PKM is an individual, disciplined process by which we make sense of information, observations and ideas. However, PKM is of little value unless the results are shared by connecting to others and contributing to meaningful conversations. The whole is greater than the sum of the parts as we build on the knowledge of others. As knowledge workers or citizens, PKM is our part of the social learning contract. Without effective PKM at the individual level, social learning has less value.
According to the Cluetrain Manifesto (1999) Hyperlinks subvert hierarchy, or, in other words, digital networks enable multiple connections, so organizational communications are no longer just vertical. Somebody else, outside the hierarchy, is only one click away, and perhaps easier to deal with and a better source of information and knowledge. This is becoming obvious in the business world and frameworks such as Social CRM (customer relationship management) are one attempt to address it.

Too often we think of learning as school, training as something that is delivered, and complex problems as solvable with enough effort and resources. We are wrong on all three counts.

Social learning is about getting things done in networks. It is a constant flow of listening, observing, doing, and sharing. Effective working in networks requires cooperation, meaning there is no plan, structure or direct feedback. This can scare managers and organizational leaders because no one is in charge of social learning and there is no end-state or final learning objective. But social learning in networks can help us deal with complexity by providing a platform to test out ideas and learn from and with each other.

Jane Hart has described five types of learning using social media, the lubricant of learning in digital networks. Then she looked at how they relate to formal/informal learning as well as the spectrum of dependent/independent/interdependent learning.

I have circled those activities at the bottom of this grid to show what personal knowledge management (PKM) enables. I have described PKM as our part of the social learning contract and the more I look at
implementing social learning, social CRM or social business models, the more convinced I am that PKM is a foundational skill-set.

Keeping knowledge in our heads is not of much use in getting things done, though that is what most of our training and development efforts have focused on for the past century. Individual training, stemming from the military systems approach to training, addressed skills and knowledge acquisition, as directed by those in change. The organization wanted to drive stuff into our heads.

In networks, though, one of our main jobs now is getting stuff out of our heads and sharing with others.

PKM is focused on accidental, serendipitous, personal-directed, informal, independent learning.
PKM **enables** group-directed, intra-organizational, interdependent learning.

PKM **enriches** formal, structured learning and helps learners be less dependent.

PKM is taking control of our learning, as well as making much of it transparent. It makes us a valuable node in our various networks. We share our learning riches without diminishing them. If more people start seeking, sensing & sharing then we’re on the social learning path. Notice how I did not mention that you need some special “social learning” technology platform to do this?
Critical thinking in the organization

Even the mainstream training field is realizing that reduced layers of bureaucracy mean decision-making gets pushed down the organization chart. A few years ago the American Management Association published a promotional video called *Critical Thinking: Not just a C-suite skill*. But critical thinking, questioning assumptions including one’s own, only works when you can do something about it. To really profit from critical thinking, organizations need to take one important step further, by advocating a **two-way flow** of power and authority. It’s called *Wirearchy: a dynamic two-way flow of power and authority based on information, knowledge, trust and credibility, enabled by interconnected people and technology*.

The need for critical thinking at all levels is becoming evident. Here is Edward Glaser’s definition:

Critical thinking calls for a persistent effort to examine any belief or supposed form of knowledge in the light of the evidence that supports it and the further conclusions to which it tends. It also generally requires ability to recognize problems, to find workable means for meeting those problems, to gather and marshal pertinent information, to recognize unstated assumptions and values, to comprehend and use language with accuracy, clarity, and discrimination, to interpret data, to appraise evidence and evaluate arguments, to recognize the existence (or non-existence) of logical relationships between propositions, to draw warranted conclusions and generalizations, to put to test the conclusions and generalizations at which one arrives, to reconstruct one’s patterns of beliefs on the basis of wider experience, and to render accurate judgments about specific things and qualities in everyday life.

A personal knowledge management process can help to develop critical thinking skills, where sense-making includes observing, studying, challenging (especially one’s assumptions), and evaluating. Developing these skills takes practice, appropriate feedback and an environment that supports critical thinking.
A key part of critical thinking is the questioning of underlying assumptions, including our own. There are several Web 2.0 tools that can help develop critical thinking in the four areas of:

1. observing and studying our fields;
2. participating in professional communities;
3. building tentative opinions; and
4. challenging and evaluating ideas.
Flattening the organization is one way to open communications and delegate responsibility but asking employees to engage in real critical thinking, and accepting the resulting actions, will not work unless there is a two-way flow of power and authority. Critical thinking is not just thinking more deeply but also asking difficult and discomfiting questions. **Without power and authority, these become meaningless.**

So yes, **critical thinking is not just for the C-suite**, but unleashing it requires a new framework for getting work done. Wirearchy as the organizational framework, coupled with active personal knowledge management processes, is a step in that direction.
Preventing for the future of work with PKM

Hugh Macleod, one of my favourite cartoonists and someone who really understands the networked economy, recently asked: [How Do You Best Prepare For The Creative Age?](https://www.gapingvoid.com)

Chris Jablonski at ZDNet identifies [five trends driving the future of work](https://www.zdnet.com/article/five-trends-driving-the-future-of-work/) as we get virtual, online and global [I think he misses "local" though, especially as energy prices continue to increase]. **Trend 4: Adaptive lifelong learning the norm** - “Ten years from now, relevant work skills will be shaped by the continued rise in global connectivity, smart technology and new media, among several other drivers.” This is linked to the [Institute for the Future’s graphic of Future Work Skills 2020](https://www.gapingvoid.com) identifying six disruptive shifts as well as the skills necessary to deal with them:

1. Sense-making
2. New media literacy
3. Virtual collaboration
4. Cognitive load management
5. Novel and adaptive thinking
6. Social intelligence
7. Trans-disciplinarity
8. Computational thinking
9. Cross Cultural competency

*Image: Gapingvoid.com*
10. Design mindset

The first four of these skills are ones that the personal knowledge management framework is based on. PKM provides a solid foundation of future work skills.

**Here are some questions that personal knowledge management can address:**

How do I keep track of all of this information? >> start small

How do I make sense of changing conditions and new knowledge? >> curation

How can I develop and improve critical thinking skills? >> Observe, Participate, Challenge, Create

How can we cooperate? >> freely share

How can I collaborate better? >> learn out loud

How can I engage in problem-solving activities at the edge of my expertise? >> engage with communities of practice
Variations on a theme of PKM

If you don’t make sense of the world for yourself, then you’re stuck with someone else’s world view. Personal knowledge management is not so much about creating knowledge but rather the development of conscious regular activities from which can emerge new knowledge. The knowledge artifacts created along the way are only as good as the use to which they are put. My idea of Seeking > Sense-making > Sharing is similar to many other descriptive processes about learning and working.

I have mentioned:

Finding & Likening > Igniting Passions > Mutual Engagement

Listen > Create/Converse > Co-create/Formalize

Observe/Study > Tentative Opinions > Participate/Evaluate/Challenge

These are all different ways of looking at learning to learn and learning to work; as individuals, with groups and in networks.

Here is a model by Urs Frei.
Here is one more by Sumeet Moghe.
Sharing & Collaborating
Variations on a theme of PKM

Collect → Process → Organise → Review
Becoming personal knowledge managers

Nick Milton highlights an overview of knowledge management (KM) from Susan Camarena, CKO at the Federal Transit Authority, which includes:

How do we implement KM?

We already are doing it!

Everyone has their own KM program! Like:

- Saving numbers of the “right” person to call on an old, wrinkled and well used piece of paper.
- Reusing a memo that was approved as your template for the next memo to ensure it gets through.”
- Getting a movie recommendation – you trust their opinion and ensure you don’t waste your time!

However, an ad-hoc approach is not efficient

You don’t learn from what I (and others) know!!!

This is the root of personal knowledge management (PKM). With digital information overload, an ad hoc method is definitely not efficient but neither is a standardized method for everyone in the organization. I’ve described my own framework as well as those of others. Setting filters is a good first step, as Five Forms of Filtering by Tim Kastelle explains.
Some of us are naive in our filtering, just going with what we think is best. Others rely on experts but that is more and more inadequate in our increasingly complex world of expertise. We need to develop networks of expertise and regularly check them for diversity and signal vs noise. Relying on a single set of algorithms can be dangerous so we need to establish heuristics that foster more critical thinking. The way we become better knowledge managers ourselves is through practice because information is not enough, we need to learn from experience. PKM is a process to capture some of those experiences and learn through more structured sense-making and sharing.

The only knowledge that can be managed is our own, which is why I share my knowledge. Well, actually, I don’t. I could not share my knowledge with you, if I wanted. There is no such thing as knowledge transfer. Data and information can be transferred, but not knowledge.

So what is the idea behind behind personal knowledge management and the Seek-Sense-Share framework if knowledge cannot be shared in the first place? For me, PKM is a set of practices I can use to better articulate my knowledge. Seeking information from diverse sources gives me a better chance of seeing a fuller picture of our complex environment. Taking time to put my thoughts into words forces me to reflect and try to make some sense of the divergent voices coming from all over. Sharing the results of this sense-making gives back to the networks from which I drew my information and also provides more feedback loops from a variety of perspectives. It enhances serendipity.

Sharing information and viewing it through our individual filters is the best that we can hope for in terms of knowledge transfer. But not sharing would be much worse. As Luis Suarez writes on a very related post:

To me, since we are all embarked on a lifetime learning experience of what we know, what's around
knowledge sharing is innate to our human nature of wanting to connect and collaborate with others. We, human beings, are social beings, and as such have been bound to share what we know with others, so that our learning curve never becomes flat. On the contrary.

While knowledge cannot really be shared, our knowledge-making experiences can. Perhaps that is why we love stories. They are a glimpse into others’ knowledge, more nuanced than any other communication medium. Sharing is essential for our own sense-making. So share as much as possible. Nobody can steal your knowledge anyway. But we will all lose, if we don’t share it, because diversity is essential for innovation, and ultimately survival, as shown in this wide-ranging article on How Culture Drove Human Evolution:

You start out with two genetically well-intermixed peoples. Tasmania’s actually connected to mainland Australia so it’s just a peninsula. Then about 10,000 years ago, the environment changes, it gets warmer and the Bass Strait floods, so this cuts off Tasmania from the rest of Australia, and it’s at that point that they begin to have this technological downturn. You can show that this is the kind of thing you’d expect if societies are like brains in the sense that they store information as a group and that when someone learns, they’re learning from the most successful member, and that information is being passed from different communities, and the larger the population, the more different minds you have working on the problem.

If your number of minds working on the problem gets small enough, you can actually begin to lose information. There’s a steady state level of information that depends on the size of your population and the interconnectedness. It also depends on the innovativeness of your individuals, but that has a relatively small effect compared to the effect of being well interconnected and having a large population.

It’s not about innovative individuals so much as the ability of the network (society, organization, company) to stay connected to its collective knowledge. This is an important factor to consider in knowledge-intensive organizations. How quickly would your lose collective knowledge if people do not share their knowledge? Are your knowledge networks large enough to ensure that collective knowledge does not get lost? Is your organization more like an isolated island or part of a connected and diverse continent?

Society needs more personal knowledge managers.
In the FastCoDesign article, *How do you create a culture of innovation?* the authors note four skills that most successful innovators exhibit:

- **Questioning**: Asking probing questions that impose or remove constraints. Example: What if we were legally prohibited from selling to our current customer?
- **Networking**: Interacting with people from different backgrounds who provide access to new ways of thinking.
- **Observing**: Watching the world around them for surprising stimuli.
- **Experimenting**: Consciously complicating their lives by trying new things or going to new places.

One way to practice these skills would be to promote **personal knowledge management** in the workplace. The Seek-Sense-Share framework aligns with these innovation skills. Seeking includes observation through effective filters and diverse sources of information. Sense-making starts with questioning our observations and includes experimenting, or probing. We can use the simple, but effective **Probe-Sense-Respond** (developed by Dave Snowden and his Cynefin framework) approach.

1. What are you testing?
2. How will you know if you have made progress?
3. What is the smallest probe we can do?
4. Measure the results.
5. Do it again, and again, with slight variations as needed.
6. Measure the results and either amplify it or stop doing it.
Probe-Sense-Respond is similar to Observe-Experiment-Share. Sharing through our networks helps to develop better feedback loops. In an organization where everyone is practising PKM, the chances for more connections increases. Innovation is not so much about having ideas, as making more and better connections.

Innovation is inextricably linked to both networks and learning. We can’t be innovative unless we integrate learning into our work. It sounds easy, but it’s a major cultural change. Why? Because it questions our basic, Taylorist assumptions about work; assumptions like:

A **JOB** can be described as a series of competencies that can be “filled” by the best qualified person.

Somebody in a classroom, separate from the work environment, can “teach” you all you need to know.

The higher you are on the “org chart”, the more you know (one of the underlying premises of job competency models).

PKM is a framework that enables the re-integration of learning and work and can help to increase our potential for innovation. It’s time to design workplaces for individuals, and their Personal KM, instead of getting everyone to conform to a sub-optimal structure that maximizes capital but not labour. Knowledge is the new capital, but it resides in each person’s head.

To address complex problems, businesses have to rely more on individual tacit knowledge, but this type of knowledge is never easy to convey to others. It takes time and especially trust to make multiple attempts at clarification. Accepting PKM, as a flowing series of half-baked ideas, can encourage innovation and reduce the feeling that our exposed knowledge has to be ‘executive presentation perfect’. Workplaces that enable the constant narration of work and learning in a trusted space can expose more tacit knowledge. We can
foster innovation by accepting that our collective understanding is in a state of perpetual Beta. This is how we create a culture of innovation.