

Knowledge Management  
and  
Infotainment



# CHAPTER 8



## Knowledge Management & Infotainment

*An invasion of armies can be resisted, but not  
the idea whose time has come.*

*–Victor Hugo*

Forget big bang, top-down, big brother approaches to knowledge management (KM). The people peddling this stuff are selling pure snake oil, and at very steep prices. It is the height of intellectual arrogance for anyone to pretend to have answers and deep insights in this emerging discipline. We are all *babes in the woods*, barely scratching the surface, and not very successfully at that. So, don't expect to find answers in this chapter! The most I can hope to accomplish is to share a few insights and to comment on research that appears quite interesting.

I can't tell you what KM is, but I *can* tell you, with some degree of certainty, what it is not. KM is not discussion databases; document management systems; data

warehousing; data mining; email on steroids; or any other existing software category that, at one time or another, has been proposed as part of a KM solution. These technologies have their place, and when used appropriately, can produce significant returns on investment. However, they should not be confused with KM.

What is *infotainment*? The obvious answer is the combination of information and entertainment. It is one of those words that the digerati invented to mean whatever they (we) wanted it to. I will take artistic license (again) and provide yet another usage for this word: infotainment describes the way marketing delivers stories in a world of rich electronic content. Although the Internet is full of experiments, businesses (on the whole) have been reluctant to adopt rich multi-media in order to turbo charge their online marketing efforts. Despite this, infotainment *will* become the knowledge conduit of choice between buyers and sellers. The more interactive it is, the more effective it will be.

One of the principal arguments for this reluctance has been the issue of insufficient bandwidth. Rich content is bandwidth intensive, and the only thing that consumers hate more than a poorly designed web site is a slow one. Bandwidth remains a real issue. Despite the fact that DSL and cable modems have improved the state of the art, we still have some distance to go before fast universal access is available to the masses. Even access from within many corporate firewalls remains pathetically slow. Many employees have faster access at home.

Knowledge workers require fast access to the largest information repository known to man. The Internet, as a legitimate work-centric resource, is so prevalent and so important that it perplexes the shit out of me as to why corporations do not make high speed access for their employees a number one priority. These same organizations preach the virtues of automation; yet at the same time, they slow down *everyone's* productivity.

So fucking what if employees use the Internet to check their stocks and keep up with the news of the world? Misuse is an altogether different problem, not unlike

spending hours on the phone with friends and family. Perhaps you should install the cheapest phone system you can buy, one that guarantees static, as a way to cut down on personal phone use.

Our puritanical social history is another, more insidious, reason why corporations have been slow to adopt rich content as a marketing tool. Rich content feels too much like Hollywood, an idea that we are all attracted to, but often for all the wrong reasons. Be careful though, cling to staid corporate images at your own risk. If you do, you will be victimized by nostalgia for a business world that was never real to begin with. Even the most conservative of corporations (e.g. IBM) are now going out of their way to appear hip.

KM, Infotainment and eLearning are all converging into alternative storytelling mechanisms. These ideas are indelibly linked in my mind, since there is so much conceptual overlap that it blurs any clear lines of demarcation. In each case, the power resides in the story, although multi-media technologies certainly enhance it.

## Telling Stories

Why are we obsessed with automating that which is impossible to automate? Better to focus on the creation of knowledge and its transfer than to control it. For thousands of years, man has been transferring knowledge, from generation to generation, via storytelling, without any need for computers. To the degree that software can enhance our storytelling capabilities, it has the potential of improving, instead of impeding, our ability to transfer and retain knowledge.

Learning requires interactivity—a living, breathing relationship between teacher and student, master and apprentice, producer and consumer. What's more, these roles are transient. Today's master on any given topic is tomorrow's apprentice on another. Consumers no longer accept information that is shoved down their throats. They want and need the ability to talk back. It is the height of ignorance to attempt to automate human interaction out of the equation. We have become

so enamored of our tools that they often blind us and rob us of our common sense. All learning occurs in a social context through conversation:

*We view conversation as essential. We use it as a medium for decision-making. It is through conversation that we create, develop, validate, and share knowledge...Conversation is more than simply an intellectual endeavor: it is fundamentally a social process. Conversation is social in two ways. First, people speak to an audience. Speakers notice how their audience is reacting and steer their remarks appropriately: nods and eye contact convey one message; questions and furrowed brows another; yawns and fidgeting still another. Second conversation is social in that people portray themselves through conversation. They advance their personal agendas, project their personal style, take credit, share blame, and accomplish other social ends through their talk, often with a great deal of subtlety. The social nature of talk is not an undesirable side effect, but rather the heart of it.<sup>44</sup>*

Knowledge transfer requires intimate personal relationships and teachers who are comfortable with their craft. How is it that we can fill volumes with KM related content and provide scant mention of teaching and education?

*I think we risk becoming the best informed society that has ever died of ignorance.*

*—Reuben Blades*

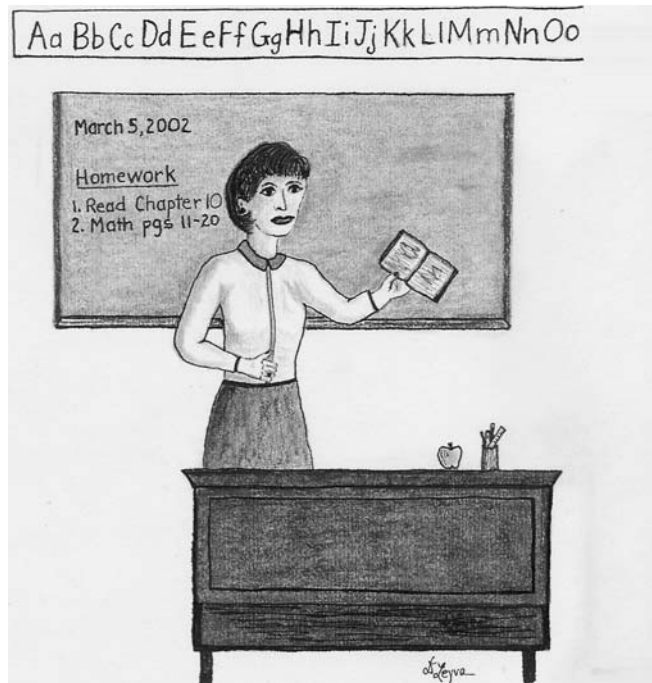
## Reward the Teachers

We all remember our favorite teachers, or at least we should. We owe them a debt of gratitude that can only be repaid, I think, by participating in their profession in small ways on a daily basis. There is no shortage of opportunities to practice this vocation: home, church, work, etc. If the captains of industry want to accelerate the pace of knowledge transfer within their organizations, and between their organization and external stakeholders (customers, suppliers, partners, and

the public at large), then they should begin to reward the natural teachers that live within their walls.

How should you go about doing this? Pay the usual suspects a few million dollars to institute a formal reward program? I don't think so! I have argued that projects are the economic unit of value creation; they are also the mechanism by which rewards should be distributed. Are there not great teachers on the team that created your latest million-dollar revenue machine? Pay them for the value they brought to the table and you will ensure that they will continue to practice their craft at your *For-Profit University*.

Yes, creators of knowledge should be rewarded in a similar fashion, but teachers more so. Why is that? Teachers, in whatever discipline they happen to find themselves (marketing, engineering, software development, etc.), are often both creators and propagators. Creation and propagation, in the business world, are



Reward the Teachers

synergistic and self-reinforcing. Rarely, if ever, are they mutually exclusive. Developers are not capable of teaching if they are not respected creators. Without the ability to create, they lack the necessary credentials to teach.

*Doers are rare. Thinkers are rarer. Thinker-doers are rarest.*

*—Anonymous*

Natural teachers fall into the third category and are *rarer still*. They are masters of collaboration and the true leaders of the new economy. They represent the neuron cells of any organization's knowledge transfer engine because they create, propagate *and teach*.

## Small is Beautiful

Most KM practitioners insist on dealing with the organization in its entirety as the key abstraction for exploring and measuring KM initiatives. Why this obsession with bigness? It is either a fallacy of the highest order, or a convenient way of generating more revenue per consulting engagement. If we want to understand something as complex as KM, then we need to focus on a more granular abstraction (i.e. the project team). Physicists seeking a better understanding of the universe decided to explore the smallest unit of matter they could find, and they were amazed by what they discovered.

Knowledge transfer always seems to happen most effectively within small communities that share a common social context—whether among members of a high performance team inhabiting the same physical work environment, or a closely-knit virtual community working on similar problems. Social interaction, constant experimentation, and feedback all power the learning process.

If you want a return on your KM investment, then you should focus on empowering these communities with the tools and resources that *they* deem to be KM enablers. Imposing a one-size-fits-all solution is a complete waste of time and money. Only the insiders know what will work within their learning ecosystems. That said, KM czars certainly have an important consultative role to play. They

can make suggestions related to emerging technologies and/or anecdotal evidence of what has worked elsewhere.

Once a community decides on an approach, financial resources and warm bodies are critical to the prototyping and implementation effort. It is okay to think global, as long as customized solutions are driven locally, and are driven by individuals who are most likely to be impacted (i.e. teachers and students). Mission critical projects rarely get this kind of support. World-class knowledge workers always search for tools and techniques that will improve both personal and group productivity. They never lack ideas that would enhance both, if only they had the luxury of pursuing them.

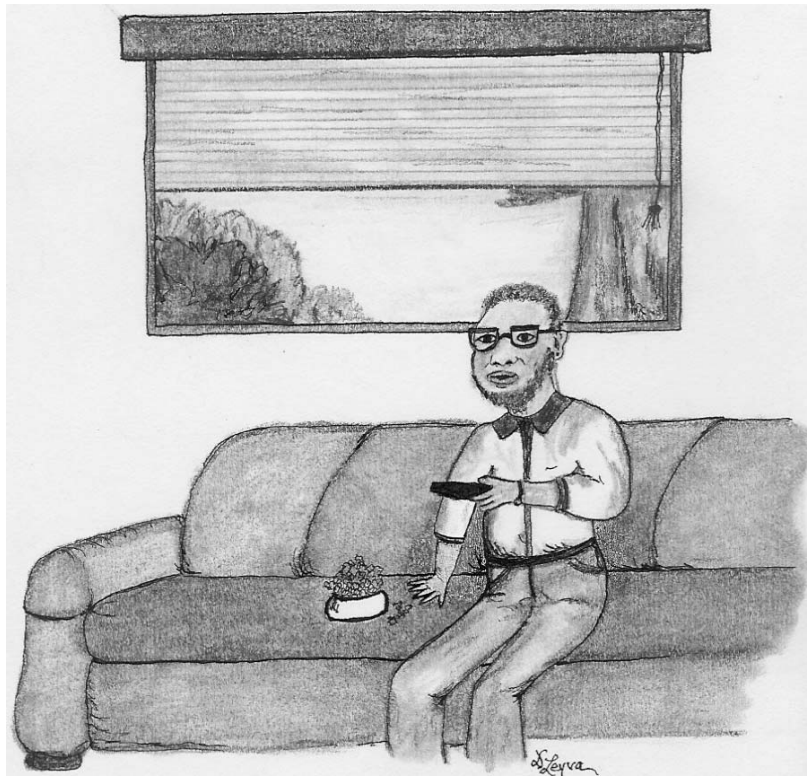
Do not be conned into believing that you can engineer your way to KM nirvana. That is utter nonsense. First of all, most corporate cultures have a complete disregard for the humanities in the workplace, and they tend to treat all forms of labor as replaceable parts of the machinery. The automatons you have created are not going to magically turn into renaissance men and women. There are many things that need to change before corporations begin to resemble institutions for higher learning.

## Information and Entertainment

Most people enjoy being entertained, even beyond what is reasonable for the health of our psyches. Witness how billions around the globe have been seduced by television. If Karl Marx were living today, he would surely insist that *television is the opiate of the masses*. Despite the Internet's rising popularity, television remains king of the hill.

The convergence of text, graphics, full-motion video and sound into powerful web-based storytelling technologies will transform the business world long before it changes the viewing habits of television's captive audience. In the B2B universe, where sales cycles are longer and revenue per transaction greater, their impact is likely to be the most dramatic.

Marketing has always been about telling stories. And now, technology has taken storytelling to an entirely new level. Despite the dot-com implosion, where the marketing machines lost all sense of reality, multi-media significantly enhances the spinning of a good (credible) yarn, and technology will continue to lead the way. However, it is the clever use of these technologies by old economy corporations that will signal the dawn of a new era.



Television, the Opiate of the Masses

*The Changing Nature of Brands*

When I search the web looking for products, I am not interested first and foremost in brand. I am interested in acquiring the knowledge necessary to make an

informed decision. I read product data sheets, review white papers and case studies, and expect to be sold and (yes) entertained. How so? If your content is boring, if it is comprised of pages and pages of pure text, you are going to lose my interest real fucking quick. I will be at one of your competitor's sites faster than you can blink.

*We know a lot about how brands have worked in the past. But now, more than ever, there is evidence that our knowledge of brands isn't enough for these times.*

*—Young & Rubicam Executive*

Regis McKenna, Silicon Valley marketing guru, makes the following observation about the changing nature of brands:

*Brands had the effect of 'reducing or eliminating the need to find out about a product before buying it,' as one marketing primer put it. But all that is now history. Branding of a new and entirely different kind is being born—brand as an encapsulation of actual, experienced value. The nature of that experience is increasingly determined through customer preferences expressed in dialog with producers or service providers—an exchange made possible by technology, and one in which the consumer has the upper hand.<sup>45</sup>*

### *Screwing the Pooch Revisited*

Industrial age marketing organizations have been slow to rid themselves of their mass marketing addiction, even though they have readily embraced enterprise CRM (Customer Relationship Management) “solutions.” I am no CRM expert, but I am always suspicious of product categories that include the words *enterprise* and *management* in their sales pitches. In the past, they always had a big-bang stench surrounding them, proving to be anything but the promised panacea, and often creating more problems than they solve. Big Business is enamored with Big Solutions, even though they are often anathema to the mission and completely miss their mark.

Perhaps by now the reader has the impression that I have an axe to grind against enterprise implementations of any packaged software. (I can't imagine why.) And by implication, that would include the usual suspects who rake in millions from these consulting engagements. I have first hand experience with these *death-march projects*, and they tend to create long lasting, negative work-related memories. In a recent report by the Meta Group, they had the following to say about the relative success of ERP implementations:

*The average ERP implementation takes 23 months, has a total cost of ownership of \$15 million and rewards (so to speak) the business with an average negative net present value of \$1.5 million. And the news gets worse.<sup>46</sup>*

The anecdotal evidence about CRM implementations that I read in the trade press indicates that they are suffering the same fate. What is the dynamic at work here? Rarely is it that software does not work as advertised. Almost always, the failures are the result of people and process problems. But how can this be? The usual suspects are hired because of their experience and a long list of stellar references that back them up.

Clearly, there are systemic root causes of these problems, since the same patterns emerge over and over. It is not surprising that the majority of implementations grossly exceed the allocated budget. There are well-understood hidden costs—ones that neither the executives (who often try to camouflage a serious organizational issue), nor the usual suspects (who try to win a deal) are interested in discussing. Since the magnitude of the hidden costs tends to be quite large, the ROI calculations of the project's value are exaggerated, to put it mildly.

#### *Getting with the Program*

News organizations adopted enabling web technologies faster than any industry I have observed, including technology. For example, all the leading news sites are heavy users of video as a means of enhancing their product offerings. Why don't

we see the same level of multi-media use with respect to marketing of old economy products and services? Labeling marketing departments as “luddites” or (when being kind) “laggards,” and ascribing to them sinister motives related to defending their turf is too simplistic to be useful.

The best and brightest in these organizations are aware of the power and potential of new media, but they have been deprived of much needed organizational support. What sort of support might that be? Philosophic and strategic endorsement of new media by the corporate power structure, as well as technology support and training that is required to drive down the costs of production. These setbacks are temporary. Soon, we will begin to see online marketing efforts take on a completely different look within successful leading-edge companies.

The aforementioned companies will likely be the ones to discover that better results are achieved through a cultural transformation, based on radically reoriented thinking rather than from the implementation of a canned solution. Skunk works projects, and lots of ‘em, will get you where you need to go faster than any big-bang project that is primarily designed to treat the symptoms of the disease, while further destroying the patient’s health in the process.

## Interactivity

Knowledge is like power. It is rarely transferred; it is almost always taken. The acquisition of knowledge requires intense interaction with ideas. Only by interacting with ideas do students internalize “know how.” It is widely known in the technology industry that most formal training is a waste of time and financial resources when it is not applied *immediately* after the course work is completed. Training companies are not in the knowledge transfer business; they are in the information presentation business.

Real training occurs when students immediately apply information and relate it to things they already know. It is the application of information that leads to internalization and the creation of this thing we call knowledge. The best

developers rarely require formal training. They *know* they are in the knowledge business and are extremely adept at seeking out the information required as a starting point for the learning process. Once they have information, they begin to experiment and interact with it. They research and experiment, and then research some more. They realize intuitively that learning is an iterative process, one that they are instinctively familiar with and enjoy.

*Constructivist theories and active learning theories have helped educators understand the way learners actively create meaning by exploring, experimenting, testing, and applying knowledge in self-directed and collaborative fashions (rather than in a predetermined course of study).*

–Warren Longmire

Communities of practice (e.g. high performance development teams) are important because they provide additional opportunities for quality interaction and reflection. Increased interaction and reflection leads to more experimentation, and thus a virtuous feedback loop. A healthy social environment within communities of practice is conducive to enhanced learning experiences, since peers are usually quite attuned to their comrades' abilities and points of reference. Through storytelling and examples, they are often able to answer the un-asked questions.

The goal for web-based interactivity should be to create micro-worlds that an individual (customer, student, etc.) can actively participate in. Active participation implies that the individual will implicitly or explicitly assume a role in this virtual universe. The micro-world represents a new reality that provides the context for effective transfer of information. The degree to which this experience allows for two-way dialog increases the probability that the individual will move from information, to conversation, to experimentation, to the acquisition of new knowledge—and ultimately, to quality decisions. The challenge for marketers and virtual instructors alike is the crafting of micro-worlds that embody information in a succinct, entertaining, conversational and interactive manner.

## Experiencing the Brand

Circa 1985, there was a nascent software marketing strategy called *shareware*. It was a “try before you buy” concept, and there was serious debate over how much *nagging* of the user should occur once the evaluation period had expired in order to encourage the purchase and registration of the product. In 1987, the Association of Shareware Professionals was formed with the following mission in mind:

*...to strengthen the future of shareware (user-supported software) as an alternative to commercial software. Its members, all of whom subscribe to a code of ethics, are committed to the concept of shareware as a method of marketing.*

*—The Association of Shareware Professionals Website*

The association is alive and well; you can visit them at [www.asp-shareware.org](http://www.asp-shareware.org).

I imagine that many software providers still make a good buck using shareware as their principal marketing strategy. However, you don’t hear the term used much anymore, since today, almost all software distributed via the Net has evaluation copies available for download. Software vendors that do not provide “eval” copies are usually out of business in short order. There is also a fair amount of entry-level free software available, whose goal is to allow the user to own a fully functional, though limited, product (e.g. standard editions versus enterprise editions). The hope is that the user will find a need to migrate to a paid edition.

Eval copies are a way to experience both the product and the brand. The consumer is likely to take the necessary steps to purchase a product only if they are impressed by what they see in the eval. Many vendors force you to fill out information forms before they allow you to download an eval, and some will even follow-up with an email or a phone call. Imagine that. We take all this for granted now, but back in the 80’s, this was brand new territory.

As necessary as this practice is in the software industry, most software marketing is still woefully behind what is currently possible. Product data sheets, white papers, presentations and the like are clearly more than what old economy companies tend to provide. But since almost everyone in the software business provides these extras, there is very little differentiation. Multi-media has a role to play here, but it has been lagging (for all of the reasons previously discussed).

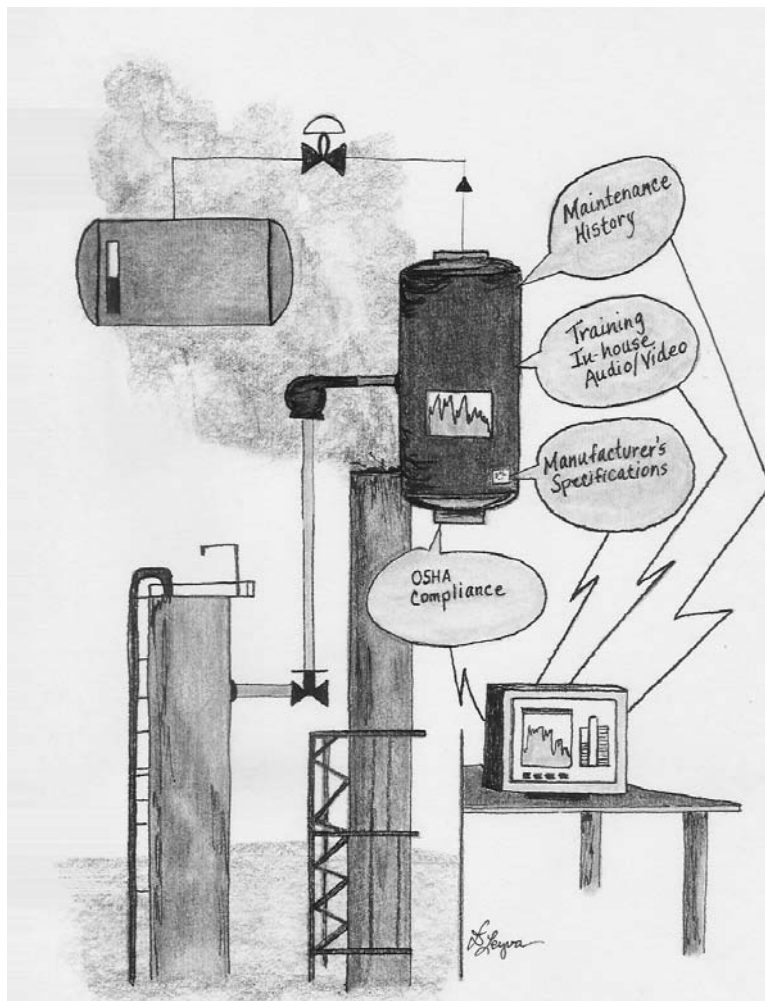
The try before you buy concept is applicable to all soft goods that can be distributed electronically via the Net. I rarely buy a book online without reading material from the excerpt and checking out the reviews. This is all expected and appropriate behavior for soft goods, but what about products made of atoms? Good question. The answer is that these products are in dire need of effective multi-media micro-worlds if the provider wants to stand out from the crowd. (Name one that doesn't.) If it is impossible for the consumer to *physically* experience the product, you have to do the next best thing: create a simulated world where they can *virtually* experience both the product and the brand.

## Context-sensitive Rich Content

It is widely known that searching, with respect to a buying decision, is a transaction cost that must be considered as an important part of any purchase process. This is true whether you're in the market for a pair of shoes, an automobile, or a million dollar piece of machinery. The more expensive the potential purchase, the more willing (and likely) you will be to incur additional search-based costs.

Why do we search? Obviously, we search in order to gather the information necessary to make a prudent and knowledgeable decision. At some point, we stop searching and synthesize the information that we have gathered. The stopping point occurs when we have found all the pertinent information (rarely), when the search-based transaction costs begin to exceed the relative value of the purchase (sometimes), or when we get tired and bored and want to get on with life (almost always).

The same principle applies when we search for information related to decisions we need to make in order to complete our work assignments. What would happen if we could, within certain decision domains, drive the search-based transaction costs close to zero? Obviously, we would make better decisions faster, while at the same time dramatically improve productivity. This is essentially the Holy Grail of KM: *get the right information, to the right people, at the right time.*



Context-sensitive Rich Content

Our crude attempts at solving this problem to date have centered on building bigger and better repositories (e.g. specialized databases) and improving full text-based search techniques. There is widespread agreement that these improvements have been beneficial. In the aggregate, two technologies, search engines and email, have dramatically accelerated the velocity of information worldwide, and they have been the prime movers in the creation of the largest library that the world has ever known.

As important as web-based technologies are, and will continue to be, they do not constitute a breakthrough in KM. Searching for information, irrespective of how fast we can do it, will always take longer than we would like it to. Context-sensitive content provides a step in the right direction.

The software development process has been improved significantly by the inclusion of rich context-sensitive help systems within state of the art Integrated Development Environments (IDEs). While the availability of specific information related to our current context does not constitute knowledge transfer, it does serve as an effective starting point.

If you accept the premise that knowledge transfer requires human dialog, then by definition, improved search technologies will never quite get us where we need to go. Below are some plausible scenarios, implementable with existing technologies, which represent the KM future, *according to Leyva*. The scenarios include context-sensitive rich content as the starting point that leads to on-demand real-time conversations when required.

#### *Big Automation Company*

Since the dot.com implosion, I have spent a significant amount of my time working with Big Automation Company on their next generation simulation product. They have a fifteen-year track record of providing high fidelity training simulators to some of the largest oil refineries on the planet. The Distributed Control Systems (DCSs) that *run* these refineries are 24/7 real-time systems, with *NASA-like* high availability requirements (i.e. they almost never go down).

Anytime these systems are down for even short periods of time (i.e. minutes), the refineries lose millions.

The fact that these systems run 24/7 is great for refinery productivity, but it makes the training of refinery operators a difficult task. To address this problem, the refineries have been using high fidelity simulation-based training software ever since the advent of the DCSs. The simulation software contains graphical representations (models) of sections of the refinery that instructors use to develop training scenarios. These scenarios include plant startup and shutdown, equipment malfunctions, DCS alarms, etc. Since the simulation models contain accurate virtual representations of plant processes and equipment, they provide an excellent platform for the development of context-sensitive rich content.

To my knowledge, none of the simulator-based training systems, including those from Big Automation Company, have the functionality I describe in the following text, but they could. The technologies required to implement these ideas are all commercially available today. As mentioned, the plant models used in simulator training systems for refineries contain graphical representations of real world plant objects—such as pumps, valves, distillation towers, etc. In addition, the models contain a representation of the plant topology. That is, how all the pieces of equipment are “laid out” and connected to each other.

Imagine clicking on a pump icon and selecting a menu option that describes the maintenance history of that specific pump. Imagine selecting another menu option that plays an audio/video clip that describes the procedure required to maintain this pump to the specifications proposed by the manufacturer. The man in the video is one of the senior operators from this section of the plant.

Need additional information regarding this pump? Select another menu option that takes you to the manufacturer’s web site, where you can talk via real time chat with a manufacturer’s representative about recent problems that you experienced with this piece of equipment. Sounds far fetched? Perhaps it is, but only because we are unaccustomed to thinking of computing systems along these lines. This

idea is much too obvious not to find its way into leading edge products within the next few years. It is a killer app in the making!

I can hear the geek wheels turning. Leyva, you dumb shit, who could build such a system? The automation vendors that supply the simulation software would need to collaborate with perhaps hundreds, if not thousands, of manufacturers in order to pull this off. And what will it cost to produce maintenance videos for *every* piece of plant equipment? Well, I never said that it would be trivial or inexpensive! <big assed grin>

Bear with me a moment and let's explore the possibilities. Web services are, as we speak, standardizing app-to-app communication over the Net, so communicating with a large number of manufacturers will soon be plausible. (Notice I didn't say easy.) Producing audio and video clips for every piece of maintenance equipment would be time-consuming, but the technology to produce it and persist it is available today, and it's getting cheaper all the time. Besides, how expensive will it be when blue-collar boomers retire and take all their tacit knowledge out of the plant with them?

Let's assume, for the sake of argument, that all of this is not only doable, but cost effective as well. Why would it be important vis-à-vis KM? Because if context-sensitive rich content can lead to real time conversations, then one of the missing pieces has just been added to the KM puzzle: people.

Human beings conversing with other human beings lead to relationships and the building of trust. Once trust is established, human beings begin to engage in one of the things they do best: telling stories. Stories lead to the effective transfer of information, which leads to experimentation, which can lead to the accumulation of new knowledge.

### *War Games*

The U.S. military has a long investment history in simulation-based training, and all signs indicate that this investment is on the rise. Consider the monumental

training needs facing all branches of the Armed Forces: a never-ending stream of new recruits, skills maintenance for enlisted men and women in a constantly evolving techno-driven military universe, and training of the officer corps in a broad range of strategic-enabling technologies. Despite the economic horror stories that tell of the Pentagon paying \$1,500.00 USD for a hammer, when it comes to purchasing state-of-the-art video game-based training simulation software, the U.S. Armed Forces are at the top of the class. Their knowledge base far exceeds that of even the most advanced private sector corporations:

*Business people are slowly “getting it”. Schools get it here and there. But the U.S. military gets it big time. The military has embraced digital game-based learning with all the fervor of true believers. Why? Because it works for them. And trust me, the guys in charge of training at the Pentagon are a very sharp group. They have seen and evaluated everything.<sup>47</sup>*

Of course, the military is capable of creating micro-worlds that are (as yet) unheard of within the private sector, including the use of sights and smells:

*To enhance the sense of reality, smells including burned charcoal can be pumped into the room. Participants can gesture and touch objects and elicit responses in the simulator. The machine also uses voice-recognition technology and different languages to allow participants to converse with the characters they encounter.<sup>48</sup>*

The intent of simulation-based training is not to replace field training, but to effectively complement it. In other situations, such as large-scale nuclear and chemical accidents, simulation-based training is the only viable alternative. Given our recent successes in a number of regional conflicts around the world, one would have to conclude that the boys in the Pentagon are doing something right.

### *Smart Appliances*

Smart household appliances—such as coffee makers, electric blankets, smoke detectors, mixers, bathroom scales, and an assortment of health monitors—are



War Games

poised to make the *Jetson* home of the future today's reality. These products utilize protocols that leverage existing electrical wiring and phone lines to *talk* to each other, all controlled by *Mama Jetson* from a central console. The implication is that all of these contrivances will make life easier, but that remains to be seen. However, one thing is certain, billions of dollars will be invested by an odd combination of bedfellows in order to make the *Jetson* household a reality.

*Some unusual partnerships are forming in the business world today, alliances between leaders of high technology and—of all things—companies that manufacturer ordinary household appliances. Microsoft has teamed up with Maytag, Sun Microsystems with Whirlpool, and Sunbeam, working with Zilog and emWare, has formed a new spin-off called Thalia. The purpose behind all this collaboration sounds like the stuff of fiction, since these companies plan to provide us with smart appliances and intelligent homes, all based on embedded chips and linked to the Internet for sending and receiving information.<sup>49</sup>*

I have serious doubts concerning how quickly this market will develop, let alone mature. If the present is any barometer of the future, then aspiring *average Jetsons* will just have to wait! Currently, the Leyva household has four remotes for controlling our stereo and television. It pisses me off to no end when I can't remember that one arcane option that I need, when I desperately need it. What pisses me off even more is that I have to ask my wife (for the hundredth time) how the fucking gizmo works!

Despite making a living in high-tech, I am not a gadget lover. Why? I spend my working life climbing learning curves and reading manuals. The last thing I want to do when I come home is to read yet another fucking manual in order to figure out how to program my digital thermostats. Chinese water torture would be preferable. In fact, I had some digital thermostats, and I wound up ripping the fuckers out after losing the manual. I couldn't figure how to re-program the blasted things!

Only a high degree of usability and content-sensitive rich content (as previously described) will work for me. I don't want smart appliances that know how to talk to each other. I want smart appliances that allow me to talk to human beings when I need them! The inmates have been running the technology asylum for a long time now, and I will be damned if I let them loose in my house anytime soon.

## eLearning

A lifetime of learning is the idea that forms the foundation of the eLearning movement. This is no passing fad, although specific delivery technologies might be quite transient, the eLearning phenomenon itself is quickly becoming one of the cornerstones of our social order. There is widespread agreement within and across various communities (business, government, education, etc.) that continuous learning initiatives are central to maintaining our competitiveness and standard of living. The goal is clear, even though there may be ongoing and widespread disagreements about where and how the appropriate investments should be made. That said, let us not delude ourselves into believing that because of our technical prowess, we will naturally or easily dominate the global knowledge-based economy.

### *The European Community (EC) is on a Mission*

At the European Council in Lisbon in March 2000, Heads of State set an ambitious target for Europe to become, within ten years, “*the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion*”.<sup>50</sup> The EC appears to be making significant progress:

*These efforts are producing encouraging results. The eEurope benchmarking for the Report to Barcelona Summit shows that the initial eEurope target of connecting all schools to the Internet is all but achieved, and that attention must therefore shift to better connections and wider educational use.*<sup>51</sup>

All signs indicate that the EC has indeed moved on from basic concerns of connectivity and infrastructure:

*At school we are seeing greater emphasis being placed on the quality of e-learning products and services, and in the pedagogical context for their use. We are moving beyond questions of connectivity and infrastructure, to ones associated with content, teacher training and organizational implications, including new social interactions inside and beyond schools. In many cases ICT fosters the opening of the school to other sources of learning, such as multimedia libraries, museums, local community resources, research centers, and transnational co-operation. It may also foster new relationships and new roles for pupils acting as researchers, creators, designers, etc.<sup>52</sup>*

I am in no position to comment regarding whether or not the EC has attained a position of leadership vis-à-vis the U.S., but they certainly appear to be doing interesting work and achieving measurable results. They are focused and committed, and they apparently have a strong desire to control their own destiny.

This is an arena where the U.S. government should take a lead role. The building of the necessary educational infrastructure and connectivity should become a national priority, similar to the federally funded construction of the interstate highway system. The amount of tax dollars spent by the U.S. military in simulation and eLearning R&D should find its way into our universities and into the private sector. If we get caught napping, we are certain to get our collective asses kicked!

### *Individual Responsibility*

Even though we *can* and should invest enormously in the *social capital* required to ensure that our citizenry has access to world-class educational opportunities, we will never be in a position to guarantee individual results. It is the responsibility of the individual to avail themselves of the best that society has to offer. Self-

reliance, stamina, dogged persistence, and desire are the educational pillars that enduring careers will be made of:

*The ultimate goal of the educational system is to shift to the individual the burden of pursuing his own education. This will not be a widely shared pursuit until we get over our odd conviction that education is what goes on in school buildings and nowhere else. Not only does education continue when schooling ends, but it is not confined to what may be studied in adult education courses. The world is an incomparable classroom, and life is a memorable teacher for those who aren't afraid of her.<sup>53</sup>*

Jethro Bodine (of Beverly Hillbillies fame) and I, for many years, had one thing in common (in addition to our good looks): our eighth grade education. I know. No doubt you are saying to yourselves, “Leyva, you are full shit. Didn’t you make it a point to mention in Chapter 1 that you graduated from the University of New Orleans with honors?” Well, yeah, I did, but only after dropping out of high school in the tenth grade and subsequently getting my GED at the ripe old age of twenty. “Well, your math is as good as Jethro’s, since you apparently had him beat by one plus years,” you might say. Not really.

After graduating the eighth grade from Central Junior High in Atlantic City, New Jersey, we moved to New Orleans. I made all A’s in ninth grade without cracking a book or learning a damn thing. I love New Orleans dearly, but the public school system (at the time) left a lot to be desired. Despite this, it was not the New Orleans school system that caused me to drop out of school in the tenth grade, but rather a true desire to get on with my education (of sorts).

*I read Shakespeare and the Bible, and I can shoot dice. That’s what I call a liberal education.*

*–Tallulah Bankhead*

Many of my high-tech friends scoff at my street urchin past, but its true (mostly), and I have the scars and the stories to prove it. But I digress. I was happy that at the age of twenty—after having worked more odd jobs that I care to remember,

including summers at a Green Giant factory in southern Minnesota—I was not locked out of the educational opportunities that I then desperately desired. The reason that I was able to take advantage of the opportunity was the wonderful K-8 education I received in Atlantic City’s public school system.

I am a big believer in public education. It has been the advancement vehicle of choice for lower and middle class Americans for the last hundred years, and will remain so going forward. I owe a special debt of gratitude to one Mrs. Theresa Marsden, who was my homeroom and English teacher in junior high. Our class contained the smartest students in the city—including Blacks, Hispanics, Whites, Jews, and Catholics—and we all learned more from her than we could ever repay. She grilled us on the fine points of English grammar and the importance of language in our lives. I have carried her influence with me all these years. I believe that I only took one additional English course in college.

Society gave me an opportunity, and I worked my ass off in order to take advantage of it. I could not have asked for more.

#### *Great Teachers Front and Center*

When our oldest son informed me that he wanted to pursue a career in education, I was vehemently opposed. I remember telling him in no uncertain terms that he was wasting his fucking education, and that he would most likely starve to death as a teacher. He was academically capable of pursuing just about any field he desired, and that he chose to teach disappointed me beyond belief!

That was then, this is now. It took some time, but I finally realized what I should have known all along: our nation is in desperate need of great teachers. If he was going to teach, then God bless him, let him be a damn good one. After all, he had chosen a decent and honorable profession; unfortunately, it’s just not the most economically rewarding one. Teachers have an awesome responsibility. We entrust them with what we value most: our children. Perhaps the best and brightest among them will learn to use enabling web technologies in a manner

that produces demonstrably excellent results, and in a manner that forces the greater society to compensate them for the quality social capital they produce.

*And Your Point Is?*

Why such a lengthy discussion of teachers and teaching? Because there never has been, nor will there ever be, great learning without great teachers, “e” or otherwise. The eLearning literature is full of technological references with scant mention of the human face behind the browser. The asynchronous and distance mitigating aspects of eLearning ensure it an enduring role in the education of the masses, but only human beings with a strong desire to teach will make it a force to be reckoned with for the good of the many.

The focus should not be first and foremost on process and technology, but on results. Again, from a competitive advantage perspective, which activities of the value chain are likely to yield the best results? One thing is for damn sure, without the human touch, front and center, the results are likely to be disappointing.

## Emerging Technologies and Research

I have argued consistently, if perhaps not convincingly, in this chapter and throughout this text that human communication is critical to making progress within the software development process—and across a broad array of emerging technologies, including KM. The following text explores examples of technologies that have the lofty goal of incorporating the human factor as a principal component of the solution. These technologies are in early stages of development and are not, to my knowledge, available commercially at this time. That said, they do provide us with a glimpse of the possibilities.

Both examples happen to come from research being conducted at IBM, although research along similar lines is being conducted at other major U.S. corporations (e.g. Microsoft).

*The Tower of “Babble”*

Babble is an online *conversation environment* that provides a forum for capturing and using knowledge in a manner that makes visible the actors involved in the process. The goal is to capture knowledge in a *discourse base*, as opposed to a database, while at the same time capturing the social context that guides, informs, and underpins the knowledge store.

*Imagine a knowledge management system that was designed from a social perspective, a system predicated on the assumption that knowledge is rooted in a social context. Such a system would assume that knowledge is produced within, and dispersed among, a network of people; that only a small proportion of knowledge is captured in concrete form; that knowledge sharing involves social factors like relationships, trust, obligation, and reputation.<sup>54</sup>*

Babble captures both synchronous (i.e. real time chat) and asynchronous conversations. In addition, “social proxies” capture the manner in which individuals interact within a specific conversational topic. The system has been deployed by a number of groups within IBM, and the subsequent analysis of group behavior has led to some interesting findings, including improved trust and better relationships (work and otherwise) among group members.

*Through our work on Babble we have begun to create an infrastructure that can support rich forms of social interaction. We have found that social proxies are a promising development, and we continue to be impressed with the power of plain text as a means of supporting interactions that are both complex and subtle.<sup>55</sup>*

Babble is an example of *social computing* that contains many seeds that are likely to yield significant fruit as we progress toward a more human-centric computing universe. I have done the authors a gross injustice with such an abbreviated description of their work. Therefore, I would encourage the interested reader to

review the IBM Systems Journal, as documented in the End Notes, for a more complete treatment of the subject.

### *Telling Stories Revisited*

Researchers at IBM are in the process of developing a markup language for capturing the essence of stories. The name of the markup language is StoryML. They propose the following conceptual framework for describing a story:<sup>56</sup>

Story Form: what is in the story

Story Function: what are the purposes of the story

Story Trace: what is the history of the story

According to this research, stories are important because they are useful in creating, capturing, disseminating, and internalizing knowledge—and because they accomplish all of these simultaneously, not sequentially.<sup>57</sup> This research supports the anecdotal evidence that I have presented in this text regarding the importance of human dialog within KM. Stories are extremely useful and powerful communication constructs within and across disciplines.

*As instantiations of a type of knowledge that can be used in so many business processes, stories also have the advantage that they can help knowledge flow through the organization. Not only are stories capable of being used by many different business functions (marketing, design, management), they are also capable of being understood by various professions. Thus stories can serve not only to support communities of practice with a common vocabulary; they can also serve an important coordinating role within a team whose members come from different communities of practice.<sup>58</sup>*

In short, storytelling is the communication construct of choice for collaborators working within and across disciplines on the increasingly complex task of bringing products and services to market. Not only does storytelling contribute significantly

to the creation of these offerings, but it also contributes to the articulation of their benefits to the marketplace.

## Epilogue

It is no surprise that industrial age organizations are dysfunctional with respect to the processes and skills required for effective storytelling. Within these organizations, storytelling was (is) the purview of the few and the privileged. Thus, they lack both a cultural and intellectual foundation upon which to build. Rectifying this dilemma is one of the many challenges in attempting to *jump the curve* from an industrial age mentality to an age where information and knowledge rule.

KM, infotainment, and eLearning are all different manifestations of the same problem space. We are on a mission to discover effective approaches for telling stories digitally. Context-sensitive rich content, powered by compelling and feature-rich multi-media technologies, is an important enabler, but not the principal driver. The convergence of storytelling and technology is the killer app of the next millennium. Central to this process is the elevation of the human voice (and spirit) to the fountainhead from which all value springs.