Push-Pull Knowledge Management Systems

By Guy W. Wallace

This article continues the series begun in the last issue of *lean*-**ISD**℠ (the quarterly newsletter of CADDI Inc) on my perspective regarding Knowledge Management Systems (KMS). Eventually this series will get to what "e" has to do/can do/will do with enterprise-enabling, performance-based, push-pull KMS. (KMS is defined elsewhere in this newsletter.)

Information technology (IT), as promised, has begun to cross our paths with huge opportunities, challenges, and pitfalls, as well as tremendous rewards for the (eventually) successful. I've have been of the "blended camp" regarding this "e" thing. In our mind, "e" deployment mechanisms should augment "t" (traditional) deployment mechanisms. To us, KMS is simply an extension and combination of instruction and noninstruction using electronic delivery means.

But as the saying goes, first things first.

This article will provide some background on our inspiration, thoughts, and real-world experiences that shape our perspective. It will also overview four stages to get to a push-pull KMS using both the PACT℠ Processes and the Governance and Advisory System articulated in our T&D Systems View℠ model and article series. Succeeding articles will dive deeper into the four stages.

Our goal is to share with our fellow PACT practitioners some of our thoughts and insights. We hope you find it useful.

Some Key Inspirations

Key to our thinking is concepts, models, examples, and experiences—numerous experiences.

I have been involved in 70 Curriculum Architecture Design℠ (CAD) projects since 1982. I have been developing T&D since 1979 and still do today. One of my last courses developed was "Material Flow," where we took the concepts and mechanics of Synchronous Flow (from the book *The Goal* by Eli Goldratt) and applied them to our client's specific reality (with approval from the process copyright owners). I've developed more than 150 days of T&D and more than 5,000 pages of self-paced T&D. Just because I'm a partner at CADDI doesn't let me escape the real-world work in the trenches—no one here does.

Key inspirations that have formed our thinking have come from many sources. At the top of the list is the work of Dr. Geary A. Rummler, now of the Performance Design Lab.

Additionally, Dr. Dale Brethower, Tom F. Gilbert (deceased), Bob Mager, Joe Harless, Donald Bullock (deceased), Neil Rackham, Tom Gibson, W. Edwards Deming (deceased), and Donald Dewar have been the greatest influences.

I have an ISD-HPT-QC-TQM-Product Management perspective born from readings, conference presentations attended, and my own T&D work in the trenches on these topics and techniques.

Some Key Concepts

First some key concepts and background.

Push-pull is used here as borrowed from the marketing world. Some products are "pulled" by the marketplace from the supplier, and others are "pushed" to the marketplace by the supplier. And in today's world, some E-mail is pushed to you so that you might click and then pull more, if you are interested.

"You may already be a millionaire" mailings are pushed. Credit card mailings that you didn't really want are pushed. Free trial-sized items in the mailbox are pushed. Pesky car salesmen hounding you as you walk in the door, and every two minutes thereafter, are push/pushing/pushy.

Web site ordering systems enable pull. Self-service stores are pull. Ordering your next car via the Web (no salesman will call) is pull.

In running T&D as a business within the business (or enterprise), many other functions in a typical corporation might be mimicked. Benchmarking them and adapting their systems and processes is pull. In our view, *performance-based* T&D is just another engineered product that either meets the needs of its customers and their stakeholders satisfactorily, or it just won't sell.

And if it doesn't sell, the T&D product will die or be reworked, replaced, or outsourced until that very real enterprise need is met satisfactorily. It is not necessarily met perfectly, just satisfactorily, which may vary tremendously from one enterprise process to another. Customer order fulfillment *beats* paper clip replenishment each and every day on everyone's priority radar screens. Order fulfillment T&D beats out *generic* time management, or at least it should.

Exceptionally well-*engineered* products/services that really meet the needs were highly and successfully *informed*. Their development teams and efforts must hear the voice of the customer loud and clear, and whatever isn't spoken out loud is figured out nonetheless. And the T&D product must have the right stuff, at the right price, at the right place, and with the right promotion going for it.

Those four Ps (product, price, place, and promotion) were *informed* by a typically deliberate process—by design and not by chance. Our favorite way.

Known by many names, including the most popular label – marketing, it is the deliberate process of figuring out what is needed by the marketplace that provides something of value back to the enterprise.

Marketing *informs*, but not in a *one-way street* fashion. Other labels for this marketing concept include brand management, product management, product development, etc.

In our minds, marketing has two fairly distinct halves. The front half of marketing precedes product development and *informs* engineering/development/manufacturing of the market needs and conditions. The second half supports and *informs* all involved from there on out, including internal and external customers involved in the sales processes and in any of the after-the-sale process needs.

The first half informs internally to all involved in the product development, and the second half informs externally to the enterprise's development team—this includes internal departments as well as customer chain external audiences.

What's all this got to do with KMS? While KMS is more like a combination of T&D and non-T&D (examples, forms/templates, job aids of various types), it is a set of "products" that either meets the needs of its stakeholders, or it doesn't. Our mental model has always included noninstructional items in the *performance-based* T&D product mix. Development, beyond training, is learning how to perform, which includes using the tools and data/information and everything else in the performance environment to get a job performance done.

Push-KMS

Push means pushing the product/service out to customers. It might be demand driven. It is as true for T&D and other noninstructional product offerings as for your enterprise's core products/services.

Some training is mandated by law/regulation, industry standard, or internal policy. Sometimes it is available mainly to recruit and retain staff and reduce turnover headaches and costs.

Some T&D is driven by either formal policy or informal tradition because the cost-of-nonconformance (CONC) is assumed to be, or really is, just too great to take the risk. Risk managers in the enterprise may have pointed out the serious/costly consequences, and then proactive steps were taken to avoid the nonconforming results.

Whether the enterprise deliberately desires to have certain target audiences be competent and able, it needs to push the content/data/tools out to these audiences (or bring them in) and have them learn them—*no kidding!*

Push-T&D is deliberate and has a business-minded purpose. It is one way the leadership protects and/or perfects the enterprise. It is seen as an investment and not just an expense. And it has an expected return of additional revenues and/or costs reduced.

Performance-based T&D can help with the human asset performance and productivity regarding the human's job-relevant awareness, knowledge, and skills. As a performer, I may need to be aware of, knowledgeable about, or skilled in the use of policy, procedures, tools, equipment, materials, as well as with job aids or examples or templates.

What does KMS really claim to be or to do that isn't T&D? To me, KMS is just new words on some old T&D concepts that have been put on steroids due to the computer and the Internet and that are currently limited by *bandwidth* issues. I will agree that KMS as typically espoused is a much more complete concept than most *traditional* T&D professionals' paradigms of T&D. Too often T&D professionals have had a narrow view of what T&D is/could be.

T&D deployed via "e" mechanisms that is deliberately pushed to target audiences for business reasons is push-KMS content, in its broadest sense. What then is pull-KMS content?

Pull-KMS

Pull means letting the customers get your products/services by *pulling*. This is true as well for T&D content.

Think of self-paced videos, audiotapes, books, booklets, job aids, CBT, and CD-ROMs. Whether deployed via "e" (electronic with appropriate enabling broadband) or not, these are pulled by target audiences, unless disabled for certain audiences.

But what I worry about here is by whom and how will the *gate keeping* be accomplished (gate keeping as in who will direct or allow others to partake of the content)? Does every business owner or manager need to pay attention as to where the time and attention of their staff is focused? You bet.

And even more so, who will be the gatekeeper for purchasing or building the content that we will allow others to partake of?

KMS for an ROI and EVA

Filling up a KMS electronic warehouse with "tons" of content, data, tools, etc. might make the executives happy—maybe at first. But later they'll discover the quagmire of uncontrolled content that they allowed to be built and that must be administered or managed, and they will soon extract themselves and go on to something else to positively affect the enterprises' bottom lines. And an opportunity for *better* knowledge management on behalf of the enterprise will have been squandered.

Will the KMS content be in enterprise management control? Should it be? We adamantly think so!

Costs incurred to generate new KMS content chunks should indicate a willingness to either keep it up to date or to delete it when stale, or why bother in the first place?

If KMS postdevelopment content maintenance is not done (at an additional cost beyond first costs to create/acquire), who will count up the damages done to the enterprise due to misinformed performers inadvertently learning or drawing insights from outdated or just plain wrong KMS chunks?

Uncontrolled development of pull-KMS content chunks, just because you can, leads to all sorts of uncontrolled costs, both for new development (first costs), as well as for maintenance (life-cycle costs).

From an investor standpoint, is this a good thing? It is if there is a return. And if that were the case, then a push approach would have been in order. And if there is no return, why are we bothering?

What is the enterprise-relevant point of all of this KMS stuff?

In our minds, it should be to enable humans in *critical enterprise processes* where the returns far exceed the costs—even at a learning organization! It's still all about performance and ROI. It's still a business decision.

Charging full-steam ahead with KMS and charging the shareholders at the bottom line must serve the shareholders' purpose. Hoping for "knowledge accidents" where we serendipitously provide (capture and deploy/make available) KMS chunks that foster creativity is by chance. Too much content in the KMS could be a bad thing, because it may be too costly to administrate and maintain.

Would you rather be good or lucky? Can you be lucky every day at every opportunity? Or can you be good more consistently than lucky?

If you wish to be good more often than not, the next section presents an overview of four stages to get you to a performance-based, push-pull KMS with a focus on enterprise ROI and EVA.

Four Stages to a Performance-based/Push-Pull KMS

The four stages to getting a performance-based/push-pull KMS into place, operating it, and maintaining it are listed below.

1. KMS Business Case Development. A case is or is not made for the *investment* in respect to the forecasted *returns*. This stage requires KMS needs definition, sizing, and costing; establishing a KMS vision; establishing the KMS goal; planning and conducting benchmarking efforts; and specifying the plans for developing an internal business (much like any other subsidiary) to meet the internal customer's needs for KMS content chunks (which CADDI's PACT Processes for T&D calls instructional activities or developmental activities).

2. KMS Analysis and Design. The content analysis and design/development processes, as well as all deployment processes, are determined, designed, and implemented, including the environmental assets required in the infrastructure and the human asset requirements to work the provided environment and make the processes go.

3. KMS Initial Development and Implementation. The initial KMS content is created, stored, deployed (push), or retrieved (pull). This is costly. And, according to our model, only push-audience needs are addressed, but addressed in such a manner as to facilitate

related pull-audience needs. By definition, the needs of pull audiences never warrant meeting those needs. If we discover that there is a return on meeting those needs, then the pull becomes push.

4. KMS Operations and Maintenance. KMS content is deployed to push audiences and made accessible to pull audiences as need-to-know constraints dictate. Not all things should be shared over the enterprise intranet, as it makes it much easier to find its way to the competition.

Of course, we always fit in our PACT Processes for T&D where we see a fit. PACT has always been about high-payback T&D—T&D in many forms, at many levels: awareness, knowledge, and skills. It includes information that might be overviews/orientations/instruction, examples and demonstrations, and many types of applications, including real work and simulations.

Stage 1: KMS Business Case Development

Either the results of an effort to formulate a business case for KMS sells the decision-makers, or it does not. Hooray for the investors when that is the case! Either way, if the business case sells or doesn't sell, the investors/shareholders always win!

A business case effort that proves the need for KMS by identifying the costs of nonconformance, as well as the costs of conformance for putting a KMS in place, makes the entire process a rational business practice.

In today's world where many industries and enterprises are seeing their playing fields equalized by the general availability of both process and equipment to all of their competitors, finding sources of competitive advantages have lead many to target the improvement of capability for key human assets in critical processes within the enterprise.

This effort sizes the enterprise needs and costs out "doing nothing" as well as "doing other various options."

Doing something involves both first costs and life-cycle costs. And with any business operation, there are certain capital and noncapital costs that will be incurred, anticipated or not, if the effort is to be successful. A Steering Team of business leaders should be leading this and making decisions and/or affecting the decisions being made.

Stage 2: KMS Analysis and Design

In this stage, the KMS content analysis and design/development processes, as well as all deployment processes, are determined, designed, and implemented. This includes the environmental assets required in the infrastructure and the human asset requirements to work the provided environment and make the processes go.

This is where CADDI's PACT Processes can come into play. It is also where our T&D System View model comes in, with its most critical Governance and Advisory System structure/apparatus.

The architecting of both the processes and the products is done here and implemented in the next stage.

Stage 3: KMS Initial Development and Implementation

In this stage, the initial KMS content is created, stored, deployed (pushed), or retrieved (pulled).

This is costly. And according to our model, only push-audiences' needs are ever addressed. But they are always addressed in such a manner as to facilitate the needs of potential related pull audiences.

The needs of pull audiences, however, never warrant meeting those needs for them alone, by our definition. If their needs are to be met, it should be deliberate, and then they are considered a push audience and not a pull audience.

Then there are the costs associated with related performance errors, if they happen. And wasn't the KMS intended to impact performance? So it will, won't it? And if it misinforms, yikes!

Stage 4: KMS Operations and Maintenance

Ongoing KMS operations involve the deliberate (no kidding) deployment of content to push audiences, as well as making the content accessible to pull audiences as any enterprise need-to-know constraints and proprietary information protection needs dictate.

Not all things should be shared over the enterprise intranet, as it makes it much easier to find its way to the competition.

And the inevitable updating chore that exists for almost each and every piece of content will add a lot of life-cycle expense unless carefully managed.

Avoiding the inadvertent creations of just-slightly different, derivative works (in other words, redundant content) should keep everyone up at night, especially the shareholders.

Every redundant piece of content created is a wasted expense as another additional/unnecessary first cost, only to certainly be followed by certain additional/unnecessary life-cycle costs, including administrative costs and then maintenance costs.

Summary – Push-Pull KMS

This article focuses on both a *push* and a *pull* approach to KMS, with a performance-based orientation and flavor, as well as a product marketing and engineering conceptual bias.

Both push- and pull-KMS require figuring out what's really needed and valued in the first place and then engineering the product/service to really meet those needs better than any alternative—but only for the push-audience needs. Pull-audience needs are met by smart product design and chunking strategies.

No one who owns and runs a business would ever *do* pull-KMS for its sake alone. Never. That would be nonsense, and no business could afford to waste its resources in such a manner and be allowed to survive.

Pull-KMS content availability must be enabled only as a deliberate result of meeting the KMS needs of push audiences, never for any other reason.

Enterprise-critical push-KMS needs will take care of pull-KMS needs. Do that by design, and don't leave it to chance.

We hope that our concepts, models, and examples enlighten you and enable you. In the next issue of *lean*-**ISD**, we will explore Stage 1: KMS Business Case in detail. Please provide us with your feedback, suggestions, etc. Thank you.

Guy W. Wallace wrote this article in 2000 when he was at CADDI Inc.

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