

THE TAXONOMY FOLKSONOMY COOKBOOK

Finding the Right Recipe for
Organizing Enterprise Metadata

Daniela Barbosa tells us “what’s cooking” in taxonomies and folksonomies.





Why this food for thought?

It's no secret that the Internet is changing the way we consume and digest information. Every day, consumers who used to reach for the Yellow Pages now reach for Yahoo!, Google and hundreds of other online resources. Information seekers who once cracked open dusty encyclopedias in the library now surf Wikipedia online.

For years, many enterprises watched this transformation from the sidelines, content to continue adjusting the content management systems and taxonomies in which they had invested.

But the consumers at home are also our employees at work. And when they arrive at their desks, they bring a new set of expectations that have been shaped by their experiences with the Internet, cell phones, email, mobile hand-held devices and iPods. These and other innovations have changed the way they consume and interact with information.

Start cooking – or get grilled

Content management is not immune to this transformation. Online sites such as Flickr and del.icio.us have allowed users to submit their own metadata, known as “tags,” to shape the very architecture of their knowledge and how it's shared.

These practices, also known as “social tagging” are too big and too valuable to the enterprise to be ignored. As information professionals, we can be intimidated by our fears of anarchy and information chaos - or we can choose to apply these practices to our advantage. And let's be honest, in time - perhaps a very short time - we may not have much of a choice. Enterprise users will demand flexible, easy to use tagging tools as part of their own pantry of supplies. And the only remaining question will be whether we are prepared to serve it up – or not.

Join me in the kitchen

As an information professional, I confess some nostalgia for the old days of neatly organized recipe files and gravy-stained books on my kitchen counter. But as one of the information “cooks” in the enterprise, I'm also an information junkie who is fascinated by new and emerging technologies: And social tagging is one that I feel should be harnessed across the enterprise -- for users' sake and for the good of your information strategies.

There's no one set recipe for success. But I invite you to join me in an exploration of the options - an opportunity to review the growing world of folksonomies and the delicious (if you'll forgive the pun) potential they have for our enterprises. I hope you enjoy the format of this ebook. Now let's get cooking!

Sincerely,

Daniela Barbosa

Business Development Manager, Synaptica at Dow Jones Client Solutions

*P.S.
Let's stay in touch.*

You can always join me in the taxonomy conversation:

daniela.barbosa@dowjones.com

www.danielabarbosa.com

www.twitter.com/danielabarbosa

<http://del.icio.us/unstruc>

Collaborative Cooking: Folksonomies Enter the Enterprise

Our pantries are full. But where the heck is the celery salt?

Consider it an embarrassment of riches: For the contemporary enterprise, progress is not inhibited by a lack of information, but by a lack of *easy access* to that information.

You know... the data you need is out there - but where?

You believe... there's an expert in your organization who can help - but who?

You suspect... that there's a better way to share knowledge - but how?

For many years, enterprises have responded to the information glut by creating taxonomies, structured hierarchies of metadata - or data about data - that organize knowledge in a more orderly, more accessible manner. These systems may be used to classify documents, digital assets and other content within any type of physical or conceptual entity - products, processes, knowledge fields, teams and groups, etc. - at any level of granularity.

In its simplest definition, a taxonomy is the standard vocabulary a company uses to describe its business.

In practice, taxonomies should make information easier to *find*.

We're getting burned...

Yet taxonomies often fail to live up to our expectations for a number of important reasons:

- * Employing expert information professionals is **expensive** and their work is **time-consuming**
- * Mastering a growing body of information requires frequent **maintenance** and periodic **reviews** of the metadata
- * Many taxonomy tools are **difficult to use** -subject matter experts/content creators will not participate in a system that disrupts their work processes
- * The **vocabulary** of the information professional/librarian may be at odds with the language of content creators and users, obscuring the very information the taxonomy should reveal



The Survey Says...

(of those who responded)

- * 24.8%
of enterprises have had a taxonomy for three years or more
- * 17.1%
have recently implemented a taxonomy
- * 45.7%
do not have a taxonomy in place

While taxonomies can organize and display information in ordered hierarchies that show relationships among entities, they can also become inflexible structures that limit information discovery and fail to reveal collaborative opportunities.

Laura Ramos and Daniel W. Rasmus.
"Best Practices in Taxonomy Development and Management," January 8, 2003, Giga Information Group, Inc.

Folksonomies to the rescue?

Once again, the Internet has offered a challenge to standard operating practices that shows a great deal of promise as well. The new technique? Tagging. Also known as "social bookmarking," "social indexing," "social classification," or just "social tagging." It's a method that allows users to store, organize, search and manage content with metadata they apply themselves using freely chosen keywords.

Thomas Vander Wal, the person who coined the word "folksonomies" for this social approach to metadata, defines it as, "simply...collaborative categorization using simple tags."

Tag, you're it.

Tagging, as seen on sites such as del.icio.us or Flickr, involves three key elements:

- * Free assignment of metadata or "tags" to pages and objects for personal retrieval
- * Creation of tags within an open, social environment shared among others
- * Tags are made by the content creators and consumers themselves

Enterprise/Intranet Tagging Tool Examples:

- * Connectbeam
- * IBM Dogear
- * Scuttle
- * Connotea

Consumer/Internet Tagging Tool Examples:

- * del.icio.us
- * Furl
- * Digg
- * Ma.gnolia
- * Flickr

Social tagging

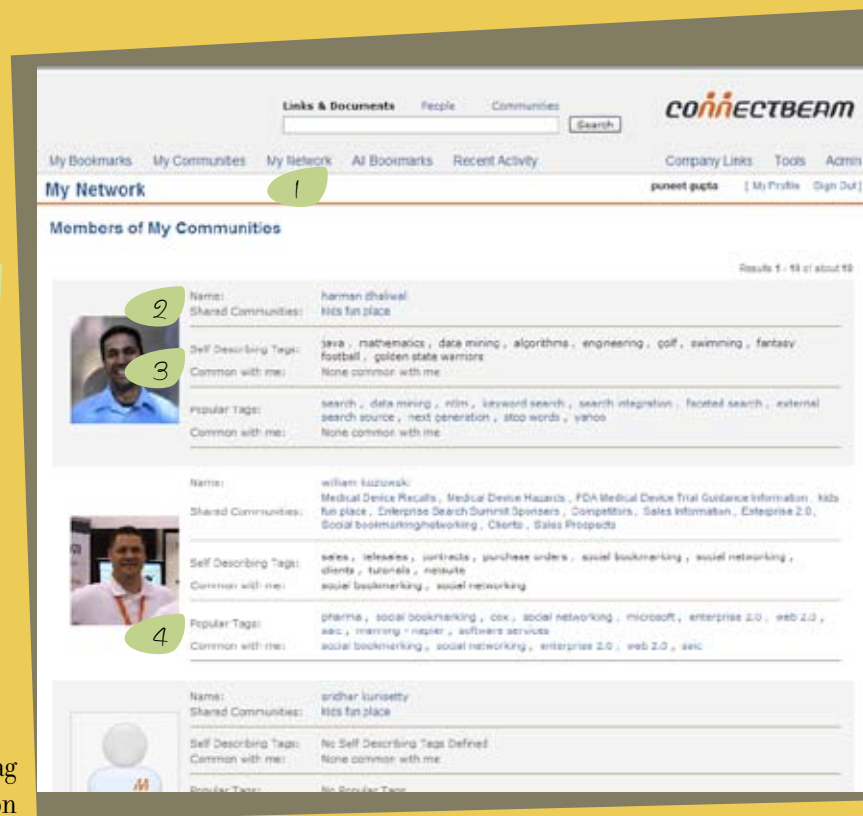
brings numerous potential advantages to the enterprise table. For starters, users can assign **many layers of meaning** to any given object, including:

- * Content **type**, such as “article,” “blogpost” “white paper”
- * Personal **directives**, such as “to read” or “team distribution”
- * Subjective **opinion**, such as “cool,” “relevant” or “controversial”

Tagging can facilitate collaboration among specific teams and/or specific projects. As tags are shared, a feedback loop is organically produced between the “taggers” and those consuming the tags. In addition to the actual tag itself, the act of tagging can provide information about the piece of content the tag has been applied to and about the users who have tagged it. In del.icio.us, for example, users can see **how many times** a piece of content has been tagged – which may denote the relative importance of that reference within the community – as well as *who* has tagged it (possibly also including notes on why it was tagged).

Some enterprise social bookmarking applications, like Connectbeam, have expertise locator profile views that are dynamically generated based on the information collected from the users’ tags, helping the community **identify experts** on various topics. This kind of triangulated metadata further enables knowledge identification and sharing, leading users to the person with the celery salt or to an acceptable substitute ingredient for a given “recipe.”

Tagging content can improve the connections between content creators and users, helping them do their jobs more efficiently and intelligently.



Connectbeam's tagging tool builds social connections as it facilitates shared content access

1 My Network

Allows users to call up the social networks they've created

2 Shared Communities

Shows related groups

3 Self Describing Tags

Reveals shared skills, areas of expertise

4 Popular Tags

Lists shared interests



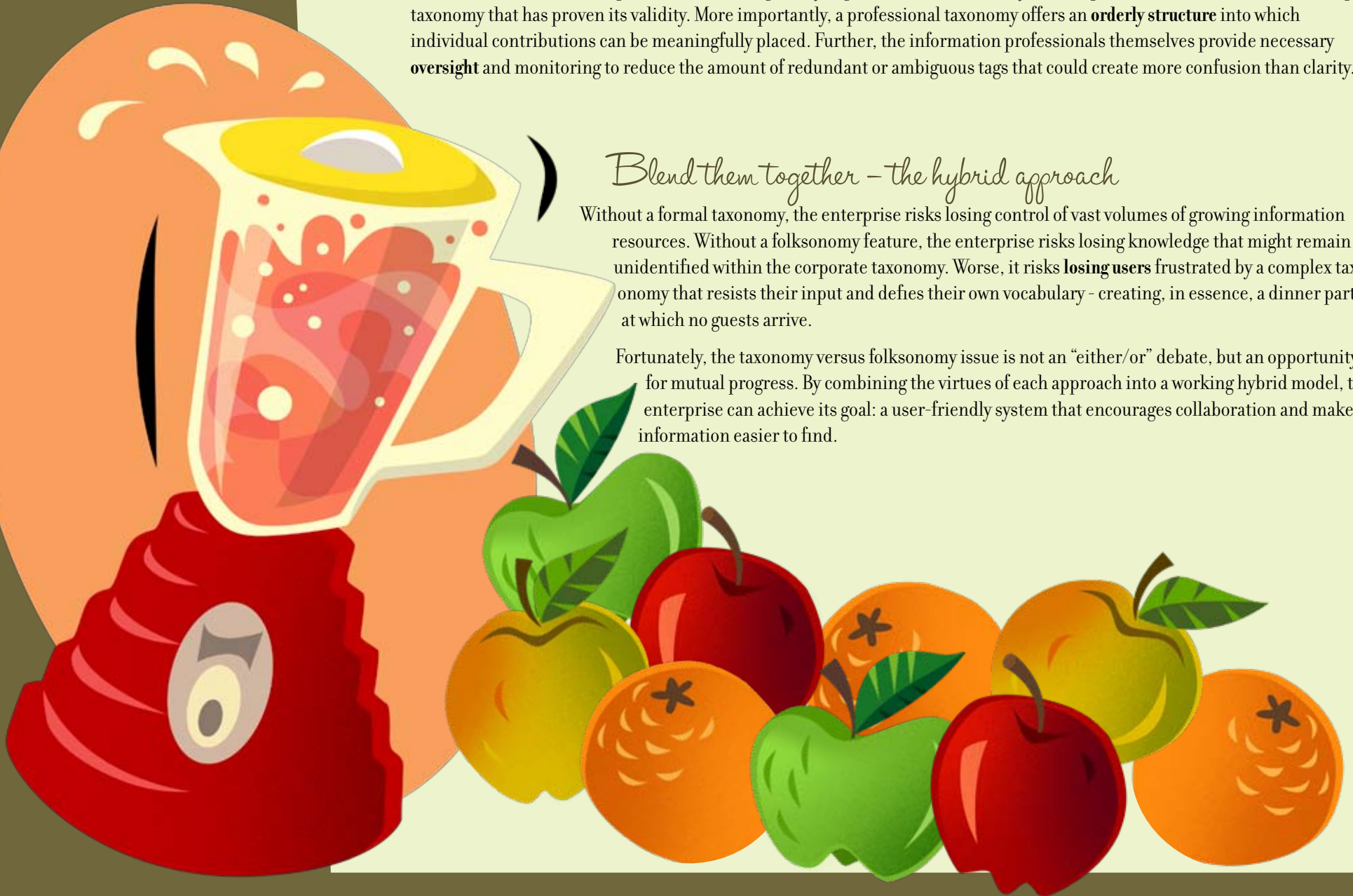
But we shouldn't put our taxonomies on the back burner

While folksonomies can play a powerful role within the enterprise, it would be both premature and undesirable to abandon traditional taxonomies altogether. For one thing, many organizations have already made significant investments in a working taxonomy that has proven its validity. More importantly, a professional taxonomy offers an **orderly structure** into which individual contributions can be meaningfully placed. Further, the information professionals themselves provide necessary **oversight** and monitoring to reduce the amount of redundant or ambiguous tags that could create more confusion than clarity.

Blend them together – the hybrid approach

Without a formal taxonomy, the enterprise risks losing control of vast volumes of growing information resources. Without a folksonomy feature, the enterprise risks losing knowledge that might remain unidentified within the corporate taxonomy. Worse, it risks **losing users** frustrated by a complex taxonomy that resists their input and defies their own vocabulary – creating, in essence, a dinner party at which no guests arrive.

Fortunately, the taxonomy versus folksonomy issue is not an “either/or” debate, but an opportunity for mutual progress. By combining the virtues of each approach into a working hybrid model, the enterprise can achieve its goal: a user-friendly system that encourages collaboration and makes information easier to find.



The Great Bake-Off:

Taxonomy vs. Folksonomy vs. Hybrid Approach

Enterprise Taxonomy	Folksonomy	Enterprise Taxonomy Hybrid Models
Central control	Democratic creation	Central control with continuous user input
Top-down	Bottom-up	Meet in the middle
Meaning per the author	Meaning to the reader	Meaning for the living and growing community
Process to add new	Just do it	Suggestions, additions, deletions still follow governance models but quicker to implement
Accurate	Good enough	Community validated and tested
Navigation	Discovery	From navigation to discovery within screen flows
Restrictive	Expansive	Flexible and constantly changing as needed
Defined vocabulary	Personal vocabulary	Community vocabulary

Taxonomy/Folksonomy parts of this table – by Michael Sampson. (www.michaelsampson.net)

The taxonomy versus folksonomy issue is not an “either/or” debate, but an opportunity for mutual progress.

The Proof is in the Pudding: The Benefits of a Hybrid Model

Many of the core benefits of a hybrid model are germane to taxonomies in general: the integration of fragmented information, increased knowledge-worker productivity, improved distribution of information, and more effective team and cross-team collaboration.

Yet the incorporation of tagging technology into the hybrid model yields new benefits that cannot be realized – or cannot be realized as efficiently – through a corporate taxonomy. Although there may be considerable overlap among the following categories, it pays to consider the advantages to three key constituents: the enterprise itself, users/creators/employees, and taxonomists/information professionals.



Benefits to the Enterprise

Greater scope and depth to information capture

Social tagging helps the enterprise capture documents, data, reports and objects with a wider and swifter net than hierarchical governance, gathering content that would have been lost or delayed had only the hierarchy been applied. Tagging leverages the collective power and knowledge of multiple eyes reviewing a broader landscape of material.

Increased customer/market understanding

It's one thing to organize your internal data, but incorporating relevant *outside* information raises the challenge to another order of difficulty. In the past, individual browser-based bookmarks were lost to the broader community. In addition, most users were discouraged by the difficulty of cutting and pasting external documents into the organization's document management system. Tagging, however, makes it easy to bring outside information in. According to a recent Forrester study of a pilot tagging program, 83% of the tagged content was external to the organization; tagging rapidly incorporated relevant material into the enterprise.

Improved collaboration

Users can easily create tags by product (e.g. "Megatext2.o"), project (e.g. "market review") or even group identity (e.g. "Ryan's team") to identify information relevant to self-defined groups and encourage its rapid dissemination among members.

Encourage transparency

Who found a given item valuable and why? Tagging tools supplement submissions with information about the tag author and with opportunities for the submitter to add explanatory commentary that establishes him or her as part of the conversation.

Retain "lessons learned"

Experience can be hard-won, but losing valuable lessons is a bitter pill indeed. Collaborative tagging preserves the collective wisdom of team effort, ensuring that lessons are retained even as individual employees change departments – or change employers.



Benefits to content creators, users and employees

Faster and more effective sharing of knowledge

Tagging turns ordinary data collection and retrieval into an active conversation among peers. The social context not only expands the pool of contributors beyond the professional taxonomists, it encourages a *deeper* engagement by facilitating more connections among contributors and across items of information.

Superior findability and refindability

Too many inquiries become “Where’s the beef?” challenges amidst a complex stew of information. Informal tags apply the colloquial language of actual user-groups, increasing the odds of identifying information through terms familiar to the user.

Expertise discovery

Sometimes a personal call is the quickest route to insight – but who are you going to call? Social tagging puts “faces” (in some tools, quite literally – with photographs) to previously anonymous information. Users can follow tags as leads to potential experts. They may also peruse the bookmark or tag sets of individual contributors as a fresh entry point to previously unexplored information.

Satisfying expectations

Many organizations turn a blind eye toward technology on the Internet, failing to recognize that today’s consumers on the Web are tomorrow’s (or just yesterday’s) employees on their intranets. The truth is, today’s workers - especially younger employees who have been virtually nursed on cell phones, iPods, IM and more - *expect* speed, simplicity and control. And they expect it *now*. If the enterprise fails to provide tools that fit their expectations, they won’t simply conform to standard practices - they’ll ignore formal processes and continue to use the tools that enable them to be successful, irrespective of potential corporate impact. Better to incorporate tools that bring these people in, rather than impose complex content management structures that shut them out.





Benefits to taxonomists and information professionals

Vocabulary check

By incorporating social tagging into their metadata management practices, information professionals gain an important window into popular concepts and synonyms – of significance to users – that they might have neglected.

Instant and ongoing updates

In the past, information professionals conducted quarterly or biannual updates that might have required time-consuming focus groups and/or in-depth interviews with group leaders. Tagging provides a continuous stream of refreshed metadata for evaluation.

Real-time monitoring

Information professionals can monitor contributions or recommendations as they are submitted, eliminating committee processes.

Insights into content management strategy

Tags can give information professionals important insights into how enterprise content is perceived by users, how the content is used, and where or when users go outside the system to seek content.

While social bookmarking could not replace commonly used repositories, it helped to make the use of multiple repositories transparent (corporate repositories and collaborative spaces were scattered across the intranet). Similarly, it saved the librarians from having to re-gather multiple resources for different customers; they could tag resources appropriately when they first identified them and then later retrieve them.

These bookmarked resources then became discoverable by others. As the system became populated with more and more relevant resources, it saved users from having to do their own exhaustive searches; the fact that someone else had found and bookmarked a particular resource was a rating, in a sense.*

Folksonomies are also excellent tools to help identify non-textual information such as images or audio content, where automated classification technologies do not generally tackle this problem well. Hence, this is an area that could greatly benefit from tagging, whether in a structured taxonomical format or in a purely free-form basis.

Pierre Wolf, Techdirt Insight Community

*Laura Damianos, Donna Cuomo, et al; "Exploring the Adoption, Utility, and Social Influences of Social Bookmarking in a Corporate Environment"; The MITRE Corporation; Proceedings of the Hawaii International Conference on Systems Sciences

Let's Roast Some Half-Baked Ideas:

Dispelling Misconceptions that Discourage Tagging

Sure, there might be legitimate reasons for not incorporating folksonomies into enterprise systems. For example, there's no reason to fix what "ain't broke." As Cato Institute scholar and technology expert Timothy Lee noted in the Techdirt Insight Community, "If your database is already so well-organized that users have no difficulty finding the records they need, there's no reason to invest resources in creating another, redundant searching mechanism."

But many enterprises that could benefit from folksonomies fail to do so because of irrational fears and false expectations. Here are some of the most common misconceptions:

"They don't know what they're talking about."

With the emergence of every new technology comes the inevitable, if condescending, anxiety that the tool might fall in the "wrong" hands. Specifically, some information professionals fear that ordinary users will apply the wrong terms to the wrong content.

This objection is essentially wrong-headed. The value of a metadata term is in its meaning to information seekers. And if the terms - or tags - are posted by the content creators and users themselves, then the terms demonstrably make sense to the people who matter: the ones who create and use them.

"Psst. Take a look at this top-secret document."

What about security? Won't tags expose confidential documents to the outside world?

Within the corporate context, folksonomy tools obey the document standards for security and confidentiality that the enterprise has previously established. Tagging tools do not supersede enterprise security tools, but work *within* them.

"We can't have a system that's full of @#\$%&!"

Insults. Obscenities. Sexually provocative or racially offensive language. These and other language liabilities can keep enterprise information professionals - and attorneys - awake at night. But there's no need to panic because you have multiple protections at your disposal:



- * Systems can be programmed to automatically reject objectionable words.
- * Systems administrators always retain the power to delete inappropriate content.
- * Most importantly, there is **no anonymity** within the enterprise; every entry is automatically attributed to its contributor. Transparency is a powerful disincentive to bad behavior.

"Welcome to Miss Pellings."

Many administrators fear incorrect spellings and inconsistent spelling standards such as these:

- * **Compound words:** Is it "healthcare" or "health care"?
- * **Abbreviations:** Does "WSJ" mean "Wall Street Journal"?
- * **Alternate spellings:** Is "Robert Johnson" the same person as "Bob Johnson"?
- * **Capitalization:** Will "east" and "East" be recognized as the same thing?

The truth is, the issue only seems complicated. Social tagging tools, in fact, can be deployed with programs and processes that reconcile multiple spellings and create tag standards consistent with the enterprise's policies as well as user needs.

"Produce: Am I giving you a command or a piece of fruit?"

There is a real need to disambiguate words with multiple meanings. When you submit "stock" as a tag, do you mean a financial instrument, a soup base or an item that goes on a shelf?

In a pure folksonomy without hierarchical structures, users submit additional keywords with tags to clarify their intentions. In a hybrid model, however, the answer is simpler; the underlying taxonomy provides the context that clarifies meaning. Take "produce" for instance. In the following example, the surrounding terms within the data tree help us distinguish the noun "produce" from the verb:

* Groceries



Produce

* Fruits

Versus...

* Design

* Develop

* Produce

Within a hybrid model, users can be prompted to select a tag from a predetermined list within the taxonomy, or to connect their freely created tag to the previously created structure. Either way, the formal taxonomy itself serves as a means to disambiguate new inputs into the system.

"We won't have enough inputs."

It's the chicken-and-the-egg dilemma. Do you need lots of taggers before you have enough tags to make the system useful? Or do you need to start with lots of tags to attract the interest of taggers? What happens when a project starts enthusiastically with numerous participants, then decays? Will subsequent queries produce irrelevant results based on "urgent" tags created months, maybe even years earlier?

There are a couple of things to consider:

- * Remember, in a hybrid model you *extend* a formal taxonomy that already exists and, because of reviews, will always function - it remains a safety net that categorizes information.
- * In some models, enterprises "seed" the system by launching a pilot program with their most tech-savvy employees or by pre-loading some existing tags from their commercial systems. These contributions can form a foundation that the subsequent roll-out builds upon.

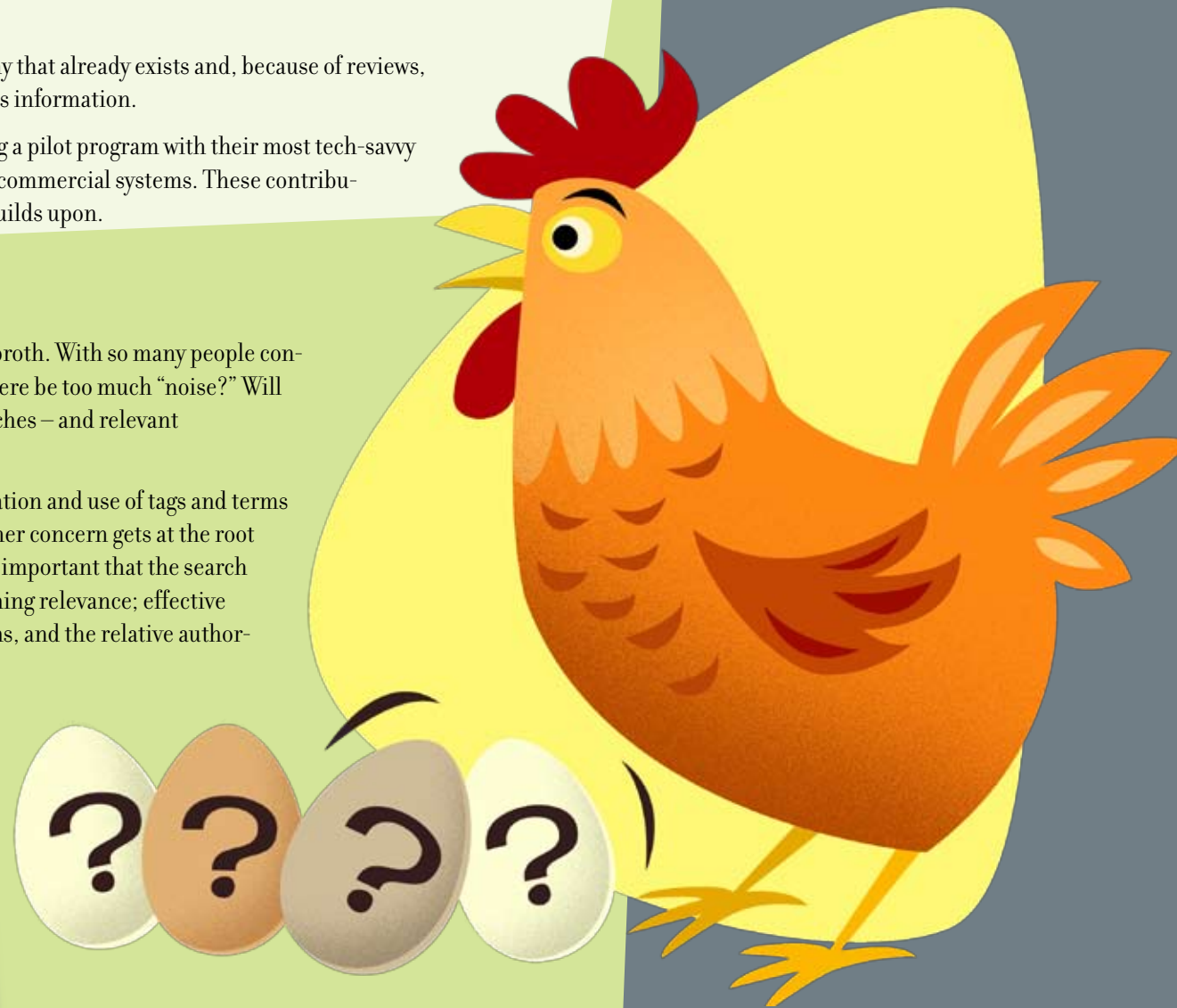
"We'll have too many inputs."

Conversely, there's the fear that too many cooks will spoil the broth. With so many people contributing their own idiosyncratic terms to the system, won't there be too much "noise?" Will the proliferation of multiple, similar terms make precise searches – and relevant returns – impossible?

Again, the existing taxonomy serves as a guidepost for the creation and use of tags and terms – that's one of the advantages of a hybrid approach. But the other concern gets at the root of search technology. Whatever folksonomy tools are used, it's important that the search algorithm rely on more than mere *volume* of tags for determining relevance; effective searches can also weigh the date or currency of tag submissions, and the relative authority of tag contributors, in their results.

Remember that a folksonomy is a "living system" – constantly being updated based on the activities of the entire user base. So one of the most helpful practices is monitoring which searches are being performed on the company's tags. This identifies the tags which are most important – and which tagging errors are creating the most problems. And it also ultimately serves as a reminder of how valuable a good folksonomy can be.

David Cassel, [Techdirt Insight Community](#)



How to Mix, Beat and Blend:

Putting Sharp Tools in the Right Hands

On millions of kitchen countertops across America, there stands a beautiful mixer/blender that's capable of doing so much. It can whip, stir, fold, and combine. It can knead dough from flour and water, and it can tease waves of meringue from sugar and egg whites.

It can do all these things, but in many homes it does none of the them. Why? Because it can be difficult to use. It requires training, talent and time. So the mixer/blender remains beautiful. Yet useless.

"Honey, where are the good scissors?"

As in kitchens, so in enterprises. Good content management tools are not necessarily those with the most features or the greatest power, but those that encourage participation by being **easy** to use.

What might you look for? A good tool should:

- * Provide **centralized control** by enterprise information professionals (who can monitor and structure contributions) *and* be open to **continuous user** inputs by all members of the user community
- * Remain **ever-present** to users, regardless of application or file properties
- * Offer **free forms** that allow users to submit tags and keywords in their own language...

...yet guide the user at the point of tagging:

- * By **displaying** a relevant portion of the taxonomy to reveal context
- * By offering **suggested terms** for use that reduce misspellings and resolve disambiguation issues
- * By **coding** suggested terms such as presenting words from the taxonomy in one color and contributions from fellow users in another color
- * **Encourage exploration** – by presenting keywords in multiple dimensions, including:

Recently added bookmarks

Popular tags over time

Hyperlinks to contributing tagger profiles

Recently added tags

Recent tag searches



Sun Microsystems's folksonomy features prompt users with tag suggestions pulled from its existing taxonomy, encouraging enterprise-wide consistency.

Now You're Cooking

Once an enterprise has decided to move forward with selected tools, it needs a plan for stimulating their use. Successful adoptions apply the following elements:

1) Enlightened self-interest

What Enlightenment philosopher Adam Smith said of free markets works for the free exchange of information as well: self-interest can work for the benefit of the community. Any tagging tool must first serve the individual's need to organize material to his or her advantage - or she won't use it at all.

*The fundamental insight that anyone looking to take advantage of a folksonomy **must** understand is what is sometimes called the "del.icio.us lesson" in usability circles. The premise is simple. Before community wide value can be extracted from a folksonomy, it must provide value to the individual. People will not effectively tag things if they are simply asked to do it for the benefit of the community. Their motivation must be selfish. The system should be saying, "you should tag this because it will help you to organize your own things." The benefit to the community is a fortunate by-product of the selfish actions of many.*

On del.icio.us it's easy to see how this has been put in action. Each person uses tags to organize their own large collection of bookmarks. When many people do this, the tagging overlap leads to rather interesting correlations across the entire user-base.

Udi Falkson, Techdirt Insight Community

2) Appropriate training

As we've learned from early iterations of PC operating systems, few things are truly "intuitive." Any investment in a folksonomy/taxonomy tool should be complemented with an investment in employee training.

The trick to making folksonomies work is to get your users in the habit of adding tags on a regular basis. If there aren't a critical number of tags in the system, searching will be useless and so users won't understand the point of using them. So the goal should be for every user to add at least a couple of tags to every record she creates. That will probably require a significant investment in training, sitting down with each user and walking her through the process of adding tags and searching on tags.

Timothy Lee, Techdirt Insight Community

Within enterprises, the identity of the tagger is especially important because credibility is tightly correlated to expertise.

Leslie Owens, "Don't Throw Away That Corporate Taxonomy Just Yet," January 30, 2008, Forrester Research, Inc.



Menu



3) Seed the system

Early adopters bring two important things to the table: a set of tags that prove useful to others approaching the system for the first time and a core of “cheerleaders” who can advocate for the system to other people within the enterprise.

We initially targeted “friendly” corporate user communities, such as librarians and other information stewards, who were willing to help populate the tool with resources relevant to the company as part of their daily research activities. This was an important step for future adoption by others; a resource-barren system would be unlikely to attract potential users of information content or motivate people to use it.

Laura Damianos, Donna Cuomo, et al; “Exploring the Adoption, Utility, and Social Influences of Social Bookmarking in a Corporate Environment”; The MITRE Corporation; Proceedings of the Hawaii International Conference on Systems Sciences (HICSS-40); January, 2007

Begin where tagging is going to be adopted. Conduct a proof of concept with active knowledge-sharing enthusiasts such as information scientists and public relations professionals to get momentum, buzz, and an initial sample of tags. As with most knowledge management activities, there will be many more lurkers and browsers than contributors; some may tag but choose to keep their tags private.

Leslie Owens, “Don’t Throw Away That Corporate Taxonomy Just Yet,” January 30, 2008, Forrester Research, Inc.

Tried and True Recipes:

Models and Best Practices for Successful Hybrid Taxonomies

First, look at the menu...

A great meal begins with a simple question, “What do I want to eat?” Similarly, the best way to approach a potential hybrid taxonomy for your enterprise is to begin with appetite: What do you want to get out of your folksonomy/taxonomy meta-data initiatives?

There is no one right way to incorporate a folksonomy into your enterprise. Instead, there are levels of engagement ranging from free and loose social tagging with little supervision to closely monitored tagging built around a tightly controlled core taxonomy.

By precisely identifying your goals, you can more effectively determine the balance between community freedom and centralized control that is right for your enterprise. The following questions can help you set the objectives your hybrid model must fulfill.

Would you like to...?

- * **Add new navigational facets (such as tag clouds) to display?** Tagging tools instantly provide new ways to visualize metadata and, through hyperlinks, to connect data, authors and users together.
- * **Create communities?** If your employees are engaged and eager to use new tools, folksonomies can be a very effective way for them to form teams, collaborate on projects, and identify experts relevant to their needs.
- * **Classify a lot of content with minimal costs?** By leveraging the collective wisdom of the crowd, tagging tools can categorize content without the time and expense of formal taxonomies. But...success depends on consistent and active participation. And without active, centralized oversight, there's the risk of high recall with low precision.
- * **Improve search?** Ultimately, that's the whole point – making content findable. Folksonomies bring user language and interests to the mix, but a hierarchical structure brings *context* that helps disambiguate meanings, and consistent oversight can integrate user contributions within the enterprise order.
- * **Get users to interact more frequently with corporate tools, like portals?** Unfortunately, an enterprise tool isn't a "field of dreams" - building it doesn't mean "they" will come. Encouraging real use is a matter of user-friendly design, careful project roll out, and sustained proselytizing.
- * **Provide enterprise location tools?** By incorporating data about the contributors themselves, social tagging tools can help users identify subject matter experts and colleagues who share common interests.

Mixing Models:

The Different Flavors of Hybrids

Today, the state of enterprise folksonomies is comparable to the state of corporate intranets a decade ago - a learn-as-you-go period of trial-and-error experimentation. The following is a sampling of ways enterprises can incorporate social tagging tools into their taxonomies:

- * As a way of **rapidly classifying content** by allowing the user community to create its own system of content reference – through tags – under casual oversight by enterprise information professionals.
- * As a way of **adding associative keywords to controlled vocabularies**. User screens display terms from the enterprise taxonomy, to which they may contribute their own free-form tags or tags previously suggested by other community members.
- * As a way of **attracting new terms** vetted by information professionals. Users can freely submit tags as they wish, but these are reviewed by small groups of moderators before they enter the system. As fresh tags are submitted, taxonomists can observe new concepts and nomenclatures discussed within the enterprise and can become better aware of emerging topics worth adding to the corporate taxonomy.



- * As a way of **validating existing terms** within the enterprise taxonomy. A working folksonomy gives information professionals a means of measuring term popularity. If, for example, the top five tagged terms are in the taxonomy, the folksonomy has confirmed the terms' relevance.
- * As a **mining tool** to uncover new terms and concepts important to the community. Digging through user tags and search logs can provide additional information about the way people use enterprise search tools.

Recipe for Success:

MITRE Cooks Up *onomi* for Its Enterprise

The MITRE Corporation is a not-for-profit organization whose research mission, involving approximately six thousand scientists on hundreds of projects, creates mountains of documentation and content shared across Listserves, wikis, Websites and more.

Its challenge? To leverage social bookmarking as a way to help MITRE employees and partners manage resources, form social networks, identify experts, and share information.

MITRE builds a pilot test

The MITRE team decided to take advantage of technology familiar to its user base. Based on *Scuttle*, the resulting *onomi* (rhymes with “folksonomy”) tool had much of the look, feel and functionality of the famous **del.icio.us** Web site. User screens supplemented the search bar with real estate for recent popular tags, recent bookmarks, popular tags, recent tag searches and displays of new users. Rolling over a tag revealed the users who had suggested it; following the creators' hyperlinks took visitors to profiles that identified the taggers and allowed the reader to see each tagger's public bookmark collection.

Each bookmark in the system was complemented by territory that allowed participants to add a description, follow relevant tags and contribute their own tags; users could also view relevant data such as the date the bookmark was added and links to other users who had bookmarked the same content.

To generate interest, MITRE targeted librarians and other informational professionals, who then helped pre-populate *onomi* with tags. Subsequent marketing activities included group briefings, intranet banner advertisements, informal coffee shop demonstrations and participation in an internal technology symposium.



Results: "Beyond simple resource management"

After 10 months of user activity, MITRE statistical analysis showed that:

- * More than 1,000 employees, or 17.5% of the company had visited *onomi*
- * 272 visitors maintained a bookmark collection or regularly browsed the system
- * *onomi* had gathered more than 7,000 bookmarked resources and over 26,000 tags
- * One-fifth of bookmarked resources were internal
- * The average *onomi* user had 40 bookmarks with 3.7 tags per bookmark

The subjective benefits were even more impressive. "As the system became populated with more and more relevant resources, it saved users from having to do their own exhaustive searches," the MITRE report noted. "The fact that someone else had found and bookmarked a particular resource was a rating, in a sense."

One user reported, "Tags are surprisingly useful considering we are relying on an unstructured mechanism. I am really surprised how accurate tags are and how precisely they are used."

In sum, MITRE concluded, "The benefits of social bookmarking extended far beyond simple resource management; the tool was valuable in a corporate environment for sharing and disseminating, promoting information discovery, supporting communities and social networks, and feeding expertise finding."

Laura Damianos, Donna Cuomo, et al; "Exploring the Adoption, Utility, and Social Influences of Social Bookmarking in a Corporate Environment"; The MITRE Corporation; Proceedings of the Hawaii International Conference on Systems Sciences (HICSS-40); January, 2007



The Right Ingredients:

A Taxonomy Shopping List

There is no end to the possibilities of a hybrid approach to enterprise taxonomies and folksonomies. In fact, the important conclusions are not the ones I draw, but the ones *you reach* after careful consideration of your enterprise needs and ambitions.

I leave you with a list of questions for you to consider. They serve as a summary of many of the key ingredients to a successful enterprise taxonomy. I hope, however, that they also whet your appetite for action. Read the questions. Weigh your options. And begin to imagine what social tagging tools could bring to *your* table.

- * Do you have an enterprise **taxonomy in place**?
- * Is your current content management system **easy to use**?
- * Do you have a **centralized taxonomy management system** that is scalable and can easily be integrated into a social tagging system?
- * Can users **find content** - and experts - rapidly and efficiently?
- * Can users **contribute** to your current taxonomy?
- * Could free-form tags rapidly **supplement** your system with fresh content?

- * Do you have the resources you need to **monitor and maintain** your taxonomy?
- * Are enterprise employees already familiar with **folksonomy tools** like Digg or del.icio.us?
- * Would your enterprise benefit from greater **collaboration**?
- * Is your metadata **vocabulary consistent** with the real language of users?
- * Are you certain that your taxonomy is **capturing all** of your significant enterprise content?
- * Can your content management system **bring external content in**?

- * Can you meet the **expectations** of Internet savvy employees?
- * Can your information professionals **validate** the terms in the taxonomy?
- * Does your search tool weigh **date/recency** and **authority** in its algorithms?
- * Can you identify a core team of **early adopters** who could populate the system with tags and promote its use?
- * Are you prepared to **train** employees to use new tools?
- * Are you ready for a whole **new and more exciting** world of information exchange?





Finally, remember that you don't have to eat alone.

If you have any questions about enterprise folksonomy models - or just want to discuss the issues I've raised in this ebook - please contact me at Daniela.Barbosa@dowjones.com or give me a call at 415.321.9502. I'm always eager to share a bite of insight or two.

Bon appétit!

Daniela Barbosa

About the Author

Daniela Barbosa is part of the Dow Jones Client Solutions group within the Dow Jones Enterprise Media Group in San Francisco. She helps large corporations deploy information strategies through various parts of the enterprise and has worked with many Fortune 500 clients in the high tech, consumer products, consulting, telecommunications, pharmaceutical and financial industries, as well as many ecommerce customers. An avid social media fan and producer on the topic of information delivery in the enterprise, she continually "eats her own dog food" by using social media tools and processes to engage with customers and prospects. She recently spearheaded a *Folksonomies & Taxonomies* roundtable event in Silicon Valley, California. Daniela shares the results of that roundtable and other research work, plus additional thoughts on social tagging, on her blog *Unstruc...chichatting* about information delivery. Daniela has a Masters of Library and Information Science (MLIS) from the School of Information and Library Science at Rutgers in New Jersey and has been with Dow Jones since 1999.

Synaptica® from Dow Jones

Synaptica® from Dow Jones is a tool that simplifies and standardizes business vocabulary management. Used by clients in the corporate, pharmaceutical, online publishing, government, ecommerce and Internet search markets, Synaptica enables organizations to add structure and value to existing information assets and connects professionals to the information they need, when and where they need it. Synaptica is used to efficiently build and maintain taxonomies, thesauri, name catalogs and other authority files with audience-centric capabilities to support diverse user communities within the enterprise. With Synaptica, you can design new metadata and vocabulary screens, data elements, and rules in minutes and easily manage hundreds of vocabularies, millions of terms and unlimited users with granular permission controls.

For more information about Synaptica, please visit <http://www.synaptica.com> or call 1.800.369.0166.

Hybrids ala Barbosa

Ingredients:

- 1 carefully determined enterprise objective
- 2-3 hybrid options for consideration
- 1 team of information professionals
- 1-3 months of time for planning
- Diverse pinches of flavor from initial participants to jump-start your model

Preparation:

Pre-heat the enterprise by setting clear objectives based on enterprise concerns. Blend together a hybrid model best suited for company goals. Set aside a portion of development time to test your model with a core group of early adaptors. Monitor tagging activity and take the social temperature at regular intervals - adjust accordingly. Serve while hot to the entire enterprise and cheer success with a nice glass of merlot.

Dow Jones Client Solutions

Dow Jones Client Solutions enables you to get the most out of your knowledge investments by delivering comprehensive, technology-enabled information solutions and consulting services that transform your information assets into competitive advantage. With expertise in user experience design, role-based integration and access to the most trusted, reliable content, we help companies optimize their sales process, streamline marketing intelligence, improve workflow and increase online financial business.

For more information about our capabilities, please visit <http://solutions.dowjones.com/clientsolutions> or call 1.800.369.0166.

© 2008 Dow Jones and Company Inc. All rights reserved.

