Folksonomies: It’s Time to Reach for an Information Cloud, Not a Card Catalog, When Conducting Scholarly Research

A new phenomenon is happening on the web; the social bookmarking phenomenon. This paper will define social bookmarking (and several other pertinent terms listed below) as it currently exists, and then argue that social bookmarking – the public categorizing the web – is a social phenomenon in which users can collect information for research projects in a fraction of the time of traditional methods, and the collected information will be more pertinent and precise than produced by searches in the past. Plus, social bookmarking not only increases available resources and the reliability of those resources, but due to its nature, social bookmarking could also establish new communities within the web, communities of people who share similar interests, who could even become cohorts in future research projects.

**New Terms:**
Folksonomy  Social systems
Metadata  Tags
Pivot Browsing  Taxonomy
Recommenders
Refindability
Social Bookmarking

**Topics:**
Research Methods are Changing
The Bookmarking Boom
Classification or Categorization?  
Making Metadata  
Research Libraries at our Fingertips  
Distributed Human Intelligence  

Personal as well as Public Good  
There Are No Rules!  
Collective Intelligence  

**Synonyms:**  
Folksonomy, Social bookmarking, Tagging, Ethnoclassification, Distributed classification system (DCS), personal data cloud.

**RESEARCH METHODS ARE CHANGING**

Imagine sitting on the living room floor, surrounded by twenty or twenty-five books and periodicals on this month’s research topic. All twenty-five books, opened to particular pages, when a breeze begins to blow. The wind flips all the marked pages to haphazard ones.

This scenario never has to happen again….

**THE BOOKMARKING BOOM**

A social bookmarking site allows users to bookmark – or tag – the Internet. Tagging can be indistinct, but compared to traditional taxonomies – the stereotypical hierarchical structures usually classifying website structure – the social bookmarking data is data applied by people, data applied for the people, data applied by regular folk. Hence its alternate name “Folksonomy.” “[A]ny user…can create tags or categories without permission from any kind of authority” (ideant). Tags are keywords, “free-form labels assigned by the user and not drawn from any controlled vocabulary” (Hammond). Tags are both dynamic and democratic (Wikipedia). A tag is an “object that brings a resource and a social group together via the shared meaning of a word’ (ideant). This tagging is a bottom-up categorization of the web, as compared to the tradition of top-down
hierarchical structures of information common on the Internet and elsewhere, and this
tagging can be done by anyone. By everyone.

Many social bookmarking services are springing up; Citeulike, Connotea, Del.icio.us, Flickr, FURL, LibraryThing, WINK, and Yahoo!MyWeb are just the beginnings, and Connetea offers one of the best overviews to this bookmarking phenomenon in video format on their site.

**CLASSIFICATION OR CATAGORIZATION?**

“There is no hierarchy and no directly parent-child or sibling relationships between the terms” (Mathes) users choose, therefore we should not think of this as a classification system, but rather as a “categorization.”

But then, tags are not issued by one authoritative entity so they really aren’t a classification system either, they are a categorization method, and items are tagged purely through group effort. Humans set tag-based categorizing in motion--humans who understand the content of the resources they are tagging.

Search engines like Google organize results purely by number of hyperlinks on a given page, and in doing so, the Google-type searches often net faulty results; search results from Google tend to be full of outdated information and contain many broken links, rendering many results useless. In a social bookmarking system, users rate the usefulness of their findings and share those ratings with other researchers. This method means more specific and more meaningful results, and in less time.

**MAKING METADATA**

Metadata is data about data; in Folksonomies, users create this metadata in the form of their tags. The metadata is then shared through a community (Mathes). One of
the great features of del.icio.us is the ability to show all bookmarks, by all users, on any
given subject. By entering http://del.icio.us/tag/_______ (users fill in the blank with any
subject—I chose “Folksonomy”), the search results give all bookmarks, by all users on
that queried subject.

Let’s try it:

1. **Chain Reading ~ Book tracking made easy**
   
   *by kridgway to books reading social web2.0* [folksonomy] [socialsoftware]
   literature ... *saved by 96 other people* ... 2 min ago

2. **Feed Collectors | Home**
   
   *by computerjoe to aggregator blogging blogs directory feeds* [folksonomy]
   internet online news rss ... *saved by 44 other people* ... 7 min ago

3. **» The new meaning of programming | Between the Lines | ZDNet.com**
   
   *by jenzpeace to* [folksonomy] media networking news social strategy ... *saved by 12 other people* ... 14 min ago

4. **the friend of a friend (foaf) project**
   
   *by virtualgeoff to* [folksonomy] semantic socialsoftware XML ... *saved by 682 other people* ... 14 min ago

5. **tagschema**
   
   *by intellagirl to del.icio.us* [folksonomy] tagging ... *saved by 265 other people* ... 16 min ago

6. **KMWorld.com: Does information need architects?**
   
   David Weinberger provides an excellent overview of information
architecture in KM World
   
   *by vanderwal to* [folksonomy] ia tagging taxonomy informationarchitecture
   information search structure community ... *saved by 10 other people* ... 34
   min ago
7. **UX term of the day: Refindability :: Small Multiples, a blog by Dmitry Nekrasovski**

A good quick overview of refindability by vanderwal to refindability personalinfocloud folksonomy vanderwal search attraction ... saved by 1 other person ... 38 min ago

8. **Shirky: Ontology is Overrated -- Categories, Links, and Tags**

by stancliff to ontology folksonomy classification categorization Library2.0 tagging ... saved by 692 other people ... 54 min ago


by jenzpeace to article blog business culture folksonomy internet marketing myspace networking news ... saved by 145 other people ... 1 hour ago

10. **OnlyWire: The Only BookMarklet You'll Ever Need!**

by nga to bookmark del.icio.us folksonomy web2.0 tool utility tag social service beta ... saved by 1059 other people ... 1 hour ago (http://del.icio.us).

Each return on our search gives us both interesting and useful information. Looking above at entry 10 we see, “by nga” (that’s who posted), “Folksonomy” (that’s her tag), “saved by 1059 other people” (how many other people tagged this item with this word). This information is priceless. And although not every return in a search will generate usable results for every research project we undertake, the relevance of a search through a bookmarking service (the above one is del.icio.us) is far more relevant than anything we’ve uncovered on Yahoo, Google, or even Google Scholar to date. And, an even bigger bonus: sites like Connetea and CiteULike are geared specifically toward scholarly research.

But these new services aren’t just returning search information, they are returning names too. Names with information--“nga” is a person interested in Folksonomy. There
are over 1000 possible contacts in the one del.icio.us example alone. 1000 other people who are interested in Folksonomy--just in this one search return. This is the most important part of social bookmarking, and could (should) certainly lead to collaboration and even cross-disciplinary studies.

**RESEARCH LIBRARIES AT OUR FINGERTIPS**

Now users can create their “own personal library in which [they] can access every manual, every how-to book, every piece of reference material [they will] ever need” (ACMQue 8). Though the Internet is an integral part of current resources, this social bookmarking phenomenon is not even mainstream yet. The New York Times reported in October 2005, “Folksonomy Carries Classifieds Beyond SWF and For Sale”, “[A] rapidly growing generation of networking sites [are being] built around … the act of finding information [people] care about” (Todras-Whitehill).

**DISTRIBUTED HUMAN INTELLIGENCE**

David Weinberger reports: “If you think there is a best answer for every question, then a system that delivers anything other than that answer is flawed. But if some questions don’t have single best answers, or if including multiple answers spurs creativity and the connectivity of ideas, then [that is what] becomes valuable” (Small Multiples).

“Perhaps the most important strength of a Folksonomy is that it directly reflects the vocabulary of the users” (Mathes). This is interesting from a theoretical standpoint as it opens the door for much new study. Scholars could study the vocabulary people choose in their categorizations. Scholars could study any new groups formed within the chain. It seems Folksonomy could actually privilege the privileged to the lingo of ordinary people, thus bridging that giant divide between the institution and the masses. Theorists all over
call for the bridging of this gap, yet no one knows how to implement it. Folks, this might just be the ticket. Folksonomy is not just personal organization, but also cohort communication and information sharing. Communication, and community, are formed through bookmarking. Surely one of the most interesting by-products of social bookmarking is this ad-hoc group formation, and this ad-hoc group formation certainly warrants further investigation.

Tom Gruber tells us “when [people] do their tagging in a public space, the collection of their keyword [and] value associations becomes a useful source of data [for all]” (tomgruber.org). In this way, taggers now have a real voice, and there are no wrong answers. “Tags introduce distributed human intelligence into the system” (Gruber), just as Bob Johnson, Francis Lyotard, and Michel de Certeau have been asking for -- for years.

**PERSONAL AS WELL AS PUBLIC GOOD**

The social aspects of Folksonomy are remarkable. Although users tag the content for personal use, these tags, often public, also create socialization opportunities, thereby encouraging new online communities. People will (already do) surf, find applicable information, tag it accordingly, then, upon seeing another’s tags, follow those tags into new resources, a trend called pivot browsing. This new exploration opens up the world of others’ resources to individual researchers as well. Individuals can accumulate their own bookmarks, share them with others, and anyone can access those bookmarks from any web browser. The “enhancement in these systems is the use of keywords, the tags, that are explicitly entered by the user for each bookmark. These tags allow the individual user to organize and display the collections with meaningful labels” (ACMQueue). Being able
to access each others’ collections throws the collaborative doors wide open (and we won’t lose our place if the wind gusts).

Perhaps this social bookmarking, this bringing together people with like interests, can be the beginnings of new friendships and new social spaces. The Ideant article suggests future benefits and future marginalization are possible, but so far, no one has been more marginalized than anyone else. This is a system where everybody, finally, is equal, and the tagged information has the potential to be living resources for each of us. Users don’t just follow a link, “but a link decorated with a title, a description, tags, and perhaps even personal recommendation points” (MacManus).” Now we can “treat content as a part of a unified whole, an ecosystem if you will, and not just an island” (MacManus).

According to ACMQueue, one social bookmarking service named “DogEar” lets users click on a bookmark, which sends them to that bookmarked site. Then they click on a tag, which takes them to a list of other bookmarks from other authors using that same keyword. Then, if the user clicks on the author’s name, the user can leave comments about the resource (34), thus introducing themselves to another researcher with similar interests and creating a doorway to cooperation.

**THERE ARE NO RULES!**

Of course, there are no standards to tagging, but that is part of the beauty of social bookmarking. Users are connecting to new social worlds and gaining access to a much wider range of information. These open networks, full of open ideas, will provide pertinent, new data to anyone who searches for a tagged subject. We won’t just consider individual actors any longer as the relationships and ties with other actors within the
network will also warrant our consideration. Granted, this means there is less individual agency, but with that decrease in agency, the web now stands wide open for cross-disciplinary collaboration. Usually we scholars must attend conferences to find others who share our research interests. Now we can meet them in the comfort of our own offices and homes, and at the convenience of our own schedules.

But, some researchers think “recommenders” would help the Folksonomies stay consistent; Amazon.com uses a recommender to suggest (tell) shoppers what other books might interest them. Recommender software for Folksonomies could suggest tags, find synonyms automatically, help find previously used tags, suggest tags used by others, infer a hierarchy from the tags, make it easy to adjust the tags in old content. The thing to keep in mind about recommenders is, if we start using recommenders for any (and then eventually all) of our keywords and our tags, eventually, these recommenders will appropriate our terminology and simply reassert the top-down hierarchy and the “Folks” of Folksonomy will be gone and re-placed with just another tax-onomy.

**FOLKSONOMY: A COLLECTIVE INTELLIGENCE**

Folksonomy is—finally—a collective intelligence. Gruber feels “the whole world can get focused streams of fresh, authentic, user-contributed content about places they want to visit and things they want to do. David Weinberger says tagging “makes a political statement: ‘They’ no longer get to control how we organize and categorize ideas and information. ‘We’ are going to do it for ourselves, and we’ll do it better than ‘they’ ever could’” (Small Multiples. emphasis mine).

Clay Spinuzzi says, knowledge work involves directly connecting or networking activities that in the past have connected each other only through intermediaries.” This
must mean that social bookmarking is knowledge work. “When I do knowledge work on
the web, I want to take advantage of all the other work other people have done. I want to
discover other people doing the same work, perhaps to share or connect up” (Gruber).
Nowadays—finally—the web is full of “citizens with rights [instead of] users with
privileges” (Hart-Davidson). Currently, Folksonomies helps provide complex research
libraries to individual researchers; in the future, Folksonomies will promote
contemporary cooperation on research projects—across disciplines and across continents.
Works Cited


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