

# Wiki: A Speedy New Tool to Manage Projects

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**H**ow often have you lost e-mail messages, had inboxes fill up, spent too much time weeding through spam, worried about virus vulnerability, or just become tired of reading and rereading long e-mail threads or digging through archived messages? As knowledge management continues to be one of the greatest concerns for business executives, organizations are finding that e-mail, the most dominant collaborative tool in the workplace, has its limits for efficient project management. On the heels of e-mail frustrations, blogging emerged as a corporate tool alternative for documenting activities. Blogs, or Weblogs, are being used in business by marketers, entrepreneurs, and writers to write up-to-the-minute news, reviews, and advertising. But lurking on the sidelines is a tool known as a “wiki,” which is expected to open up corporate communication even more and become a significant player in the collaborative “Web-olution” environment.

*The word “wiki-wiki” means “quick” in Hawaiian. And “wikis”—real-time, editable Web sites—are the latest tools for managing projects in our fast-paced world. The authors explain how wikis work and the pros and cons of using them. Will they change the way we handle information?*

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As a social trial, it is an unusual group communication that allows the organization of contributions to be edited in addition to the content itself.

## THE TECHNOLOGY

A wiki is a real-time editable Web site. “Wiki-wiki,” which means “quick” in Hawaiian, helps its users create Web content through cooperative development and ownership. More simply, the difference between a blog and a wiki is that blog content is controlled by one owner, whereas a wiki allows multiple content providers.

The wiki grew out of programmer Ward Cunningham’s 1995 launch of a new way to discuss software design (Jesdanun, 2004). Since that time, the wiki concept has gained a reputation as one of the more useful and easy-to-implement tools in IT management and is being promoted by some as a fascinating social experiment that will change the way we reference and advance business and research.

Cunningham, whose original wiki was written in programming language Perl, released the script as copyright-limited open source. Since then, many wiki clones or wiki-like Web content management systems (WCMS) have sprung up under open-source licensing and a wide array of script languages for diverse microprocessor platforms, including PDAs and smartphones. Thus, open-source development provides some of the greatest potential for wiki implementations as front-end applications for external relational databases such as MySQL, support sites, and as replacements for other forms of groupware, such as Lotus Notes and Workplace from IBM (Matison, 2003).

The structure of the wiki is simple, because users can mas-

ter system functionality quickly and devote their energies toward content development. Wikis generally start with a front page where users can see a list of current readers or titles of pages that are editable or have been added (Turnbull, 2004). This links to an expandable set of wiki pages that can be created, edited, removed, renamed, or moved around by a scripting language. For example, coworkers can access a wiki page (from any Web browser), take a spreadsheet, modify it, add data from the Web or e-mails, and have everything reside in one location. Revisions are tracked and archived so that a threaded record is maintained (Wong, 2005). Provision can be made for protected pages and flexible permissions for accessing, editing, and adding pages ("JotSpot: Wiki Next Phase," 2004). In addition, most wikis have a roll-back feature that allows an administrator to restore the previous content of a page if necessary (Murali, 2004).

Good wikis are those that are easy to use and draw people into the discussion. To facilitate this, most have a "sandbox" page that provides instructions for beginners, so that they won't "damage" or edit projects accidentally. Wikis can keep members of a workgroup on the "same page," serving as a Web-based, traceable, searchable database. As a bonus, they can alleviate the inundation of e-mails and instant messages that some analysts have referred to as "occupational spam" (Swisher, 2004).

Until recently, most of the development of wiki software has come from noncommercial open-source platforms. Techni-

cally, there are a number of user-installable wiki programs. A leading open-source program, TWiki ([www.twiki.org](http://www.twiki.org)), estimates that approximately two-thirds of its programs are being used by businesses because of a number of features, including provisions for regulating read-write permissions and an article categorization system. Currently, TWiki is used by corporate giants like the Disney Corporation, Inktomi, Motorola, and SAP and is beneficial for coordinating help-desk and customer-support activities (Hof, 2004; Udell, 2005).

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Two leading commercial vendors are emerging. One of these, Socialtext, is a leading enterprise wiki provider (<http://www.socialtext.com>). This company has over 50 corporate clients, with more than ten in the Fortune 500, whose applications include project management, product design, customer care management, distributed marketing intelligence, and event facilitation. While the Socialtext product can be used to create a traditional blog, its value is that it can track different versions of documents, so that people working on a project can see each other's changes, go back to earlier versions, and receive e-mail alerts when changes have been made. Also, its administrative tools allow wiki articles to be viewed and sorted in a number of different ways ("Blogging Goes to Work," 2004).

The other leader is JotSpot Inc., the first application wiki company (<http://jot.com>). In a February 23, 2005, phone conversation, Scott McMullan, director of developer relations for JotSpot, stated that their beta program sign-up now exceeds 8,500 requests, from organizations ranging from Fortune 500 companies to small businesses to individual workgroups. JotSpot's Web site lists company usage, including creation of a company Intranet, meeting management (create agendas, meeting notes, and minutes), project management, recruiting, to-do list/task management, competition tracking, and customer care management. Their application offers advanced editing features with revision-control capabilities and page-access rights. Using a form concept, wiki collaborators can create pages with JotSpot that include dates for tracking information and any type of file attachments, indexing capabilities for searching text—even within word-processing documents that are attached to page postings—and an editor that appears similar to Microsoft Word (Hall, 2005; Rupley, 2004).

Beyond these wiki alternatives, there are a number of free and commercial wiki farms with services that allow individuals as well as businesses to develop their own wikis without having to install, set up, or host software on user machines. XWiki.com (<http://www.xwiki.com>), for example, is a free (or pay for more features and avoid advertising) wiki farm that uses second-generation XwikiWiki open-source software ("Wiki Farms," 2005).

## WIKI SUCCESSES AND CURRENT E-CONTENT AND KNOWLEDGE MANAGEMENT USES

One of the most outspoken proponents of this technology is Jimmy Wales, a computer programmer in St. Petersburg, Florida, who is trying to make the entire concept of a printed reference book obsolete through the "wiki." Driven by his love for encyclopedias, Wales created [www.wikipedia.org](http://www.wikipedia.org), which houses what he hopes to be the encyclopedia of the future. It draws articles from Internet users around the world who can add to and edit the site. As of November 1, 2004, Wikipedia had over one million articles, with approximately 350,000 in English and the rest in 40 other languages.

Wales's inspiration is the free-software movement, where he hopes that contributors will build on each other's work, cull out inaccuracies on the topics that interest them, and eventually produce professional-grade products. On average, 1,900 users make at least 100 edits each to the site each month and track changes automatically through watch lists that alert them to updates. Jesdanun (2004) reports that more than 25,000 people have written or edited at least ten articles each during Wikipedia's short existence. To settle conflicts related to language on sensitive topics, Wales has set up community discussion boards and a formal mediation system. Amazingly, his nonprofit foundation has raised more than \$100,000 from Wikipedia fans to pay server costs and is expanding into projects like the Wiktionary (a dictionary and thesaurus), Wikibooks (textbooks and manu-

als), and Wikiquote (quotations) (Stone, 2004).

News publications are also jumping on the wiki wagon. The *Houston Chronicle* and the *Sydney Morning Herald* have cited Wikipedia in a number of articles ranging from medical questions about carpal tunnel syndrome to the nuances of weapons of mass destruction to current litigation (Lih, 2004). In fact, many people found that the most comprehensive coverage on the devastation around the coast of the Indian Ocean caused by the deadly tsunamis on December 26, 2004, was available through Wikipedia. The site contained details of the

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quake and its tsunamis, damage, missing persons, and casualty details; warning systems in place elsewhere; and a host of external links to news services, blogs, discussion forums, other earthquake sites, and various geophysical resources (Ashling, 2005).

Wikis are being used in a number of business settings. For example, a major U.S. airline team exchanged customer response and employee information in real time to launch a new product. Using the technology, airline team members logged onto the wiki from connections all over the United States to continually post information for use in identifying and resolving issues regarding this newly developed service offering. Similarly, Edelman, an independent global PR firm, uses the wiki approach to organize fragmented knowledge within corporations

for identifying best-in-class employee engagement practices (Swisher, 2004). As previously mentioned, major companies like Motorola, British Telecom, Disney, and SAP have incorporated the dynamic and interactive capabilities of wikis to organize information among far-flung employees (Hannegan, 2004). Smaller firms like Aperture Technologies Inc. are using wikis to brainstorm, track projects, write and edit documentation, and coordinate marketing. Software startups like Stata Laboratories Inc. are using wikis to lower teleconferencing costs for outsourced engineering to India (Hof, 2004).

Commercially, Eastman Kodak is considering creation of a wiki that will allow relatives and friends to contribute stories about photos in their collections. Given the heightened interest and usage, venture capitalists are now funding several startups that hope to take the idea to more lucrative general-business audiences. Some examples of the diversity in wikis include:

- SFProspector ([www.sfprospector.org](http://www.sfprospector.org)), a geospatial wiki interface that helps visitors evaluate any property as a potential new office or store location (Lowe, 2003);
- Quicksilver Metaweb ([www.metaweb.com/wiki/wiki.phtml](http://www.metaweb.com/wiki/wiki.phtml)), where science-fiction author Neal Stephenson annotates his novel *Quicksilver*, with the goal of "growing" a body of knowledge about subjects that contributors find interesting but are outside the confines of this one novel.
- Wikitravel ([www.wikitravel.org](http://www.wikitravel.org)), which provides a free

worldwide travel guide (with over 1,930 destination guides and other articles, the key benefit of this wiki is that it provides up-to-the-minute travel updates, such as information on the March 11, 2004, bombings in Madrid that were posted the same day to Wikipedia [Dempsey, 2004]); and

- Disinfopedia (www.disinfopedia.org), another collaborative wiki sponsored by the Center for Media and Democracy, and started in February 2003. With over 5,974 articles, this wiki provides a directory of public relations firms, think tanks, industry-funded organizations, and industry-friendly experts that work to influence public opinion and public policy on behalf of corporations, governments, and special interests.

## UNDERSTANDING OF WIKI ADVANTAGES AND DISADVANTAGES

Wikis may have significant collaborative advantages but require intense scrutiny of the equally consequential disadvantages. Below is a discussion of some of these trade-offs to consider before incorporating the wiki concept in corporate or research activities.

### Advantages

1. Wikis have the asynchronous advantage of incorporating the assistance of experts, peers and friends, and other professionals. For a corporation, the considerable cost savings of this type of Internet dissemination results

from its use to supplement face-to-face meetings.

2. Wikis can be incorporated into training to explain how to do specific things. In fact, many human resource departments are incorporating wikis for e-learning, attracting employees with certain expertise, assisting with workgroup management, and developing focus groups and HR-specific employee-driven repositories.
3. By combining the power of blogs with wikis, links to other sources can be incorporated to highlight various outgrowths for research and development. Wikis provide an excellent means to anno-

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tate evolving business or incubator issues, where sparse notes, thoughts, and a meandering collection of file formats exist.

4. Wikis have the advantage of exchanging ideas for small team projects and promoting discussion. Blogs are much more structured applications. On the other hand, some have pointed to the analogy of the wiki as a blank canvas, providing greater potential for a more creative environment and expanding knowledgebase in project management (Mattison, 2003)
5. Wikis are influential in corporate culture and have the potential and power to change how we think about how we live and work. A

problem with more traditional knowledgebase solutions is the bottleneck effect, where updates are delayed through centrally managed entry. In the case of customer support sites and help desks (where unexpected issues require support technicians to access the most recent documentation with dynamic problem updates), wiki applications are becoming an integral part of the new infrastructure—one that demands flexible databases for customer support, discussion forums, and other interactions with online services.

6. Wikis work to level the playing field and allow all opinions to be heard. Some see this as an advantage, but it could also be a disadvantage leading to intellectual anarchism.
7. Wikis permit efficiency. In other words, rather than the back-and-forth exchanges of e-mail attachments or discussion boards, direct changes work well with some documents that are not meant to be part of a chronological discussion.
8. Wikis expand the one-way nature of blogs into a dynamic information organization process. In other words, wikis have leveraged the strengths of the Web by enhancing content and peer publishing—an advantage that is more in line with the original active benefits of the Web, rather than the passive content consumer models (common in the late 1990s).
9. Wikis provide a way to get everyone on the same page through the writable Web.
10. As Gilmore (2004) notes, wikis help establish trust

over a public network and make group formation and information sharing more secure and efficient. With trust built first and filters established only when necessary, wikis harness the power of diverse individuals to create collaborative works. To this end, as Walker (2004) explains Wikipedia's editorial policy, maintaining a neutral point of view must be a guiding wiki principle.

### Disadvantages

1. Editing wiki documents can be very cumbersome for some projects and some individuals. By nature, most wikis lack a fixed format or the comfort of structure that some users require. Individual online interactions are changed. In fact, Internet-security company SecureWorks abandoned wikis for sales and marketing employees when a few individuals were burdened with making all the changes because other employees did not have the patience to learn (Jesdanun, 2004).
2. Setting up a wiki can be demanding, especially if you choose to run a Web server and install complex software such as TWiki. However, more companies like Socialtext and JotSpot are offering hosted services or developing easier-to-use software aimed at businesses. Still, as with any new technology, if adoption of wiki technology within a corporation is patchy, there may be resistance by IT management to consider it for inclusion on the approved list of applica-

- tions. Additionally, evidence indicates that effective wikis require significant maintenance to remain manageable.
3. One of the biggest disadvantages can be overcoming cultural hurdles of hierarchy, control, and a sense of lack of accountability. Issues of legal liability, privacy, reputation, and security must be considered. Corporations like Sun Microsystems are also struggling with brand-protection leaks and have special approval procedures on implementing wikis (Jesdanun, 2004). The costs and

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- benefits of this openness must be assessed with the value of informal communication recognized. However, new on the security horizon is a Socialtext appliance designed for minimum administration and maximum security when working with other enterprise applications (see <http://www.socialtext.com/products/appliance/>).
4. Some contributors can impose their personal viewpoints. For example, on Wikipedia, an article about abortion was briefly replaced 143 times by a "murder" article (Jesdanun, 2004). Likewise, the potential for vandalism is a possibility, although proponents argue that the self-policing of users intent on preserving the content will prevail

- through their numbers and the speed of the end product.
5. Reliability of wikis can be questionable. If no one is an expert, there are no guarantees that wiki users' content is accurate, comprehensive, balanced, and consistent. Likewise, there is also no guarantee that users will replace inaccuracies. Although this is not the same problem for corporate project management as it is with public wikis, the issue demands an access solution to restrict individuals included in workgroups.
  6. Wikis are cumulative rather than serial. Some problems can be solved in this manner, but you may not be confident that you are making progress, not backtracking. Thus, articles may reflect the wisdom or lack of wisdom of the last contributor.
  7. Articles, by design, are always in flux, editable, and have a mixed degree of quality and finality. As with any emerging technology, each aspect of the corporation should be closely examined for substantial benefits that the wiki can provide and should avoid "the latest IT toy" implementation on a corporatewide basis.

### WILL IT GAIN WIDESPREAD ACCEPTANCE?

Some of the features that make wikis strong alternatives for collaboration may also be reasons for underadoption of the new tool. Issues of open editing and freeform content serve as formidable challenges to corporate environments as well as legal, privacy, and security considerations for internal controls and policies.

Currently, wiki adoption is not corporatewide. Islands of users have developed at the workgroup level, although some companies have a number of departments using the technology. Just as with all computer and Web innovations, it is human nature to embrace a particular program or process due to differences in individuals' comfort levels and proficiency with the electronic environment. It is equally part of human nature to closely examine technological advances that subvert the normal flow of communications.

However, the strength of the wiki results from its value to collaborate in smaller groups, unlike the emphasis of incorporating technology tools where audiences are passive and directed to Web sites requiring little or no interaction (Swisher, 2004). Wikis have the potential to provide employees with a forum for improving knowledge and advancing thought processes; form collaborative social research communities with respect to project management; and provide innovative

reference repositories for all aspects of corporate planning, operation, and implementation. As such, corporations that recognize both inherent advantages and disadvantages of wikis will have greater communication opportunities that range from simple content development to brainstorming over the Internet to knowledge management.

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