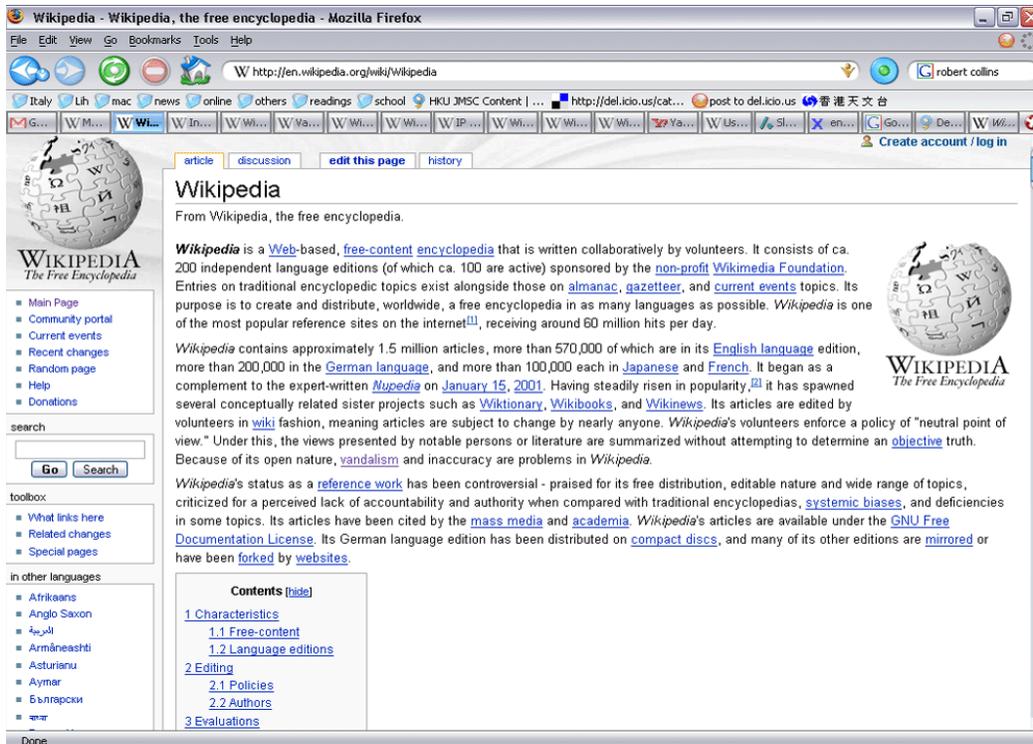


# The Social, Cultural and Economic Implications of the Wikipedia

Cathy P.S. Ma, The University of Hong Kong



## Abstract

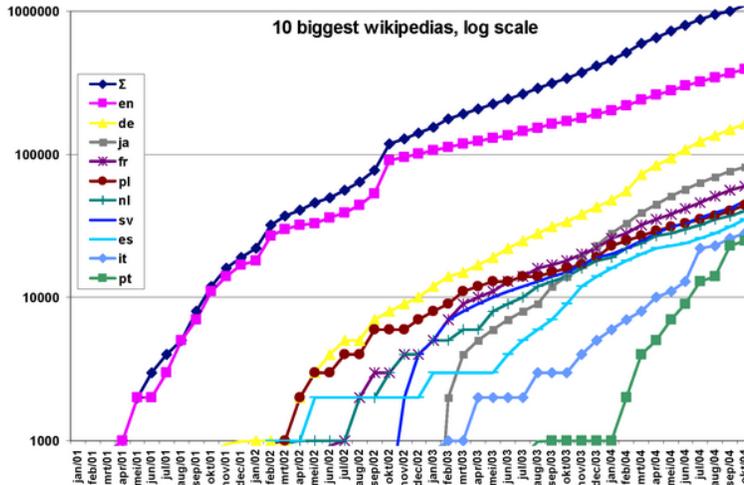
*Wikipedia* is a non-profit online project that aims at building an encyclopedia for everyone. It has attracted thousands of users to contribute and collaborate on a voluntary base. In this paper I argue that Wikipedia poses a new model of collaboration founded on three assumptions--trust, openness and reduced barrier of participation as opposed to more conventional models of collaboration based on authority and hierarchy. With this new-found social structure in mind, the cultural implications of the Wikipedia will be discussed in relation to the notion of Commons-Based Peer Production (CBPP) as proposed by Benkler in 2002, concluded with an analysis of the challenges that are facing the Wikipedia project.

## Introduction – What is the Wikipedia?

Wikipedia is an online free-content encyclopedia built from wiki software developed by Ward Cunningham in 1995. ‘Wiki wiki’ means ‘super fast’ in Hawaiian language, and

wiki software converts webpage into easily editable form. Jimmy Wales, who was a futures and options trader before he started the project, founded Wikipedia in 2001. At first Wales started a collaborative website using the wiki software but restricting the edit rights to PhDs and experts only, and named the project Nupedia. Nupedia was not going fast, thus they created a similar but experimental website that allowed everyone to edit, the Wikipedia. Since then Wikipedia has taken off and become a fast-growing editable encyclopedia.

Currently there are about a half million articles on the English Wikipedia, which was initially the only version of Wikipedia until it evolved into an encyclopedia with more than 100 language editions.<sup>1</sup> The goal of this project is to make knowledge and information free and distributable. Statistics from May 2005 issued by the Wikipedia reveals that there are more than 576,000 articles on the English database and 20,000 in the Chinese one (Wikipedia, 2005d).



(Wikipedia, 2005b)

Top 3 biggest Wikipedia by languages: English, German and Japanese

People usually discover the existence of this free, evolving encyclopedia through looking up terms in an internet search. Commercial websites, such as answers.com, funnel information from Wikipedia and make money from advertisements by mirroring its information. Various news outlets have also written about or cited Wikipedia articles in their research or content, including reputable ones like the Guardian, NewScientist and New York times (Lih, 2004b).

In what way does Wikipedia detach itself from conventional ways of knowledge production? Some researchers suggest that the Wikipedia is successful because it encourages social structure that fosters community introspection. That is, members are given the opportunity to scrutinize, discuss and offer help to one another (Viegas B. Fernanda, 2004). This is to say that the social structure of the Wikipedia suggests trust and openness in contrast to conventional ways of cultural and knowledge production that rely mainly on “experts,” where expertise is determined on the basis of authority and hierarchy. By enabling authorship

<sup>1</sup> A language edition of the Wikipedia is active only when it contains more than 1000 entries.

and version control, Wikipedia becomes a social environment for collaborations (Emigh & Herring, 2005).

### **Contractual Terms and Norms on Wikipedia**

Everyone can edit the Wikipedia, so apparently vandalism is a prominent threat to Wikipedia and potentially jeopardizes its credibility. Should we trust Wikipedia? Research findings seem to suggest Wikipedia is a reliable source of information. In terms of the formality, language in Wikipedia is statistically as formal as that in traditional encyclopedia (Emigh & Herring, 2005). Felten (a Princeton Professor of computer science) had done a quick quality check in Wikipedia and managed to find his own entry as well as some other technical entries “backed by technical information that probably would not be available at all in a conventional encyclopedia” (Felten, 2005). Current events have received massive attention from the Wikipedia community, for example the recent Hurricane disaster Katrina has received more than 7000 edits within a month (Wikipedia, 2005c).

Hence openness in Wikipedia, though appearing to be its apparent weakness, is its actual strength. Contrary to what the critics say about the Wikipedia system, openness does not imply absolute “freedom” on Wikipedia. Since everything on Wikipedia is stored and is retrievable to the public, everyone is a potential policy maker in the community. Openness thus empowers users and weakens hierarchies, resulting in a more vigorous system for peer-review. As Lih pointed out as the title of his overview of Wikipedia, “Authority is not absent, just dispersed, in online encyclopedia” (Lih, 2004a). Whenever there are disputes, voting is not the first option on Wikipedia:

Basically, whenever you feel like it, you can try to start a vote on a talk page, but people will probably not participate in it if they think discussion has not yet been exhausted as a way to resolve conflicts of opinion. In general Wikipedia follows a deliberative democracy model, where nothing is in a hurry ... it could evolve towards consensus democracy if the will is there....

Wikipedia is very much a meritocracy. Quality is the abiding goal of Wikipedia, and so those contributors who provide the best quality work are most likely to see their contributions come to influence specific articles. They are less likely to be edited and corrected by other users as they gather respect and influence within the community or sub-community of topic area. Wikipedia articles are explicitly stated to have no author, but users only have to check page history to see who has provided the most positive influence in the development of an article. The needs of personal ego can thus be subtly met (Wikipedia, 2005f).

The above policies are also drafted by the users, and are the contractual terms that “specify what rights are being transferred and on what terms” (Thrainn, 1990). In Wikipedia community, openness and Neutral Point of View are two important contractual terms. By agreeing to participate, users bring in sets of expectations with while they are gradually socialized to this set of normative standards in the community. These normative standards are critical to bind users together when they share common values, beliefs and norms as the active social actors in the group. Since there is no hierarchy or time pressure in Wikipedia, reasoning is the main priority in attaining consensus in the community. Users accumulate social currency, that is, trust and reverence from the community by establishing their own record of contribution and trustworthiness. Thus meritocracy is heavily emphasized.

### Distributed Decision-Making in Task Delegation

Social psychologist Zajonc has examined the effects of anonymity on people's social decisions. For example, social loafing, which means that people perform less on their duties in a group where duties are not specifically assigned, is a commonly stated problem; and anonymity usually accentuates this problem (Zajonc, 2004). In other words, people usually contribute less in a group when their identity is hidden. However, contributors from the Wikipedia seem to contradict this: they contribute more despite many of them choosing not to create an account and remain anonymous (they only have their Internet address [IPs] shown, but not any other user information). Data from the Wikistats page, which is a page created by the Wikipedians on monitoring the growing data of the Wikipedia, reveal a significant amount of edits that are from anonymous users - 24 per cent of the total edits. The chart below shows the top ten anonymous users of the Wikipedia and the amount of their edits (Wikipedia, 2005a). Note that the user(s) from the top IP address has (have) contributed nearly six thousands edits in May 2005 alone.

User	Edits
207.141.19.46	5992
217.168.172.202	5154
128.205.163.96	4863
64.26.98.90	3950
68.200.81.62	3858
67.171.180.209	3296
12.144.5.2	3252
67.60.27.122	2937
132.205.15.43	2913
213.51.209.230	2848

10 top IPs, ordered by number of contributions

And in my other paper, I found that there is no significant correlation between the levels of disclosure of users and the number of contributions (Ma, 2005). This means that users who have their identity revealed more do not necessarily contribute more in the community. This contradiction is reconciled by the fact that tasks on the Wikipedia are distinctively different from conventional work delegation. What are the main differences? The two main features are (1) the tasks on the Wikipedia are infinitely divisible and (2) it has a solid foundation of trust in people to decide their own tasks.

Wikipedia, built upon the wiki software, is like a big castle under construction. Everyone who sees it as an interesting project can choose to participate the way they want, from painting a brick to designing its whole architecture--the gist is you can decide what you contribute. This system provides an infinite number of tasks where participants can freely choose their levels of participation. Since each page is built from scratch, volunteers can choose to take up tasks with various levels of work that range from creating new entries to tidying up the formats of the pages. All these tasks take little time but would take a long time

without the help of the vast number of Wikipedia volunteers. In other words, we can see that people can tailor and dissect their own tasks of preference. As Benkler suggested, “collaborative production systems pose an information problem. The question that individual agents in such a system need to solve in order to be productive is what they should do” (2002, p.5).

Under unrestricted access for even anonymous users, people gain control in deciding their turf and responsibility. Social cues such as social background, hierarchies, gender or even physical attractiveness become less important. Undesirable group dynamic such as group conformity is less prominent, while individuality is maintained with relative ease in Wikipedia. Further, experimentations that are conducive to creativity are not unusual, since social desirability effects are less of a hindrance when everyone involved are obliged to abide by nothing but the few basic principles on Wikipedia.

Generalizing the notion of collaboration to the context of news production, the Wikipedia has provided an extremely diversified environment for maintaining neutrality and cultural sensitivity as its users hail from all over the world. Neutrality in the Wikipedia is such an important consideration that the policy of Neutral Point of View\* (NPOV) has been strictly observed and once an entry is found to be noncompliant with the NPOV policy, it is supposed to be amended immediately. Only information that is considered to be neutral is allowed to stay. A closer look at the NPOV page (<http://en.wikipedia.org/wiki/NPOV>) shows how important the policy is to the Wikipedia community:

A general purpose encyclopedia is a collection of synthesized knowledge presented from a neutral point of view. To whatever extent possible, encyclopedic writing should steer clear of taking any particular stance other than the stance of the neutral point of view.

The neutral point of view attempts to present ideas and facts in such a fashion that both supporters and opponents can agree. Of course, 100% agreement is not possible; there are ideologues in the world who will not concede to any presentation other than a forceful statement of their own point of view. We can only seek a type of writing that is agreeable to essentially rational people who may differ on particular points. (Jimmy Wales, Wikipedia founder, (Wikipedia, 2005e).

When story-reporting draws in the perspectives of not only reporters and the editors, but also everyone who are actively engaging in news production, objectivity is redefined. In sum, the Wikipedia has made itself stand out from other online collaborative projects, not only because of its scale, but also because of the high standard of objectivity that it strives to maintain.

### **New Way of Information Exchange**

The Wikipedia is special because it successfully facilitates extensive international collaboration on news and knowledge without providing any explicit incentives. The implication is that production of information is no longer confined to conventional production/consumption models (as dominated by major media outlets) but opened up to the individuals. The traditional top-down model of mass communications, therefore, is provided with another alternative: bottom-up, grassroot journalism (also known as participatory journalism) in which citizens play an active role in the making of news (Lih, 2004b). More importantly Wikipedia’s three distinctive features--ease of use, openness and minimum entry barriers--also contribute to this wide scale of participation.

In contrast to this kind of top-down model of production of information, with the advancement of collaborative social software, information production is no longer a centralized process and the demand of information is manifested through its production, which will be discussed in depth in the following section.

### **Economic Implications – Wiki as a New Model of Production**

In traditional economies, we have a clear delineation between producers and consumers. When a producer makes its production decisions based on price as the market signal, consumers make their choices based on their needs and abilities, understood as demands. In the context of information distribution, the dichotomization of production and consumption is even clearer. Whenever information is being sold or purchased, from leisure books to news broadcasting to specialized consultancy services, information is first *produced* then *consumed*.

What makes the Wikipedia a breakthrough is that information production is no longer confined within the above conventional structure of the producer/consumer model. When people start to contribute and collaborate without explicit incentives, the traditional model of production is no longer applicable and is replaced with what Benkler (2002) coined a “commons-based peer production.”

Commons-based peer production, the emerging third model of production... relies on decentralized information gathering and exchange to reduce the uncertainty of participants. It has particular advantages as an information process for identifying and allocating human creativity available to work on information and cultural resources. It depends on very large aggregation of individuals independently scouring their information environment in search of opportunities to be creative in small or large increments. These individuals then self-identify for tasks and perform them for a variety of motivational reasons.... (2002, p.5).

In the traditional producer-versus-consumer model, marketing decisions are based on research from the perspective of the producers. Instead of waiting for someone to ask for what you want, active participants project their demands through contributions. Information is thus produced organically through free distribution. And this process can be understood as *seeding*. Seeding happens when people initiate a process of information seeking. Those who have used Bit Torrent technology should be familiar to the concept of seeding—to introduce part of the whole and to then attract other people to contribute their bits. For example, if I am interested in today’s new headline, I can start an article and wait for potential contributors to fill in the entry. In doing so one learns by contribution and interaction with other authors. In this respect, the Wikipedia is not the only case. For instance, the Internet Movie Database (<http://www.imdb.com/>) invites movie reviews from anyone and the starring polls are usually pretty good guides for moviegoers. There are also numerous forums that help people with all sorts of queries, from computer problems to general knowledge. However, to produce encyclopedia entries with commons-based peer production is a new phenomenon. With the participation of informed users, as defined by their involvement with information production, Wikipedia no longer confines itself with one-sided, producer-based production, but draws in potentially important pieces of information that stem from demand. This results in a significantly lower-cost model where consumers provide more in-depth and creative signposts, instead of awaiting passive commercial means of information production.

### **Final Note: Potential Threats-Credibility Building and Vandalism**

Before there were big search engines such as Yahoo or Google, people generally regarded the internet as a haphazard showcase of unreliable information, since it was almost impossible for general users to be informed about the quality of the information. Today, even with search engines, credibility is still something that we are concerned about when conducting internet research. Credibility is one problem and how we map out the vast amount information out there is another big problem.

Although vandalism is very common on Wikipedia, such as unjustifiable deletion of information or the posting of profane entries, the policy against vandalism is surprisingly relaxed, yet effective:

I know it when I see it

Does it really need to be defined?

It's arguable that most vandalism that has been identified as such have been really quite obvious cases of vandalism. Hence, Wikipedia doesn't need a definite "official" policy on what constitutes vandalism at all. We can use the rule of thumb, "When a reasonable person might be in doubt as to whether something is vandalism, it would be polite not to call it vandalism."

Of course, that depends on the normative definitions of "obvious", "reasonable" and "polite", which are necessarily subjective (Wikipedia, 2005g).

Causal experiments on probing the self-healing power of Wikipedia yielded split results. Curious users did these experiments by inserting random errors into passages. Results were measured by the elapsed time before articles were recovered. Although none of the experiments were statistically valid (since most of them only inserted several errors out of the millions articles on Wikipedia), nonetheless they shed light on the anti-vandalism nature of Wikipedia.

For example Halavais defaced 13 Wikipedia pages, and all of them were restored within hours (Fisher, 2005). However one user managed to insert five subtle vandalism that were not removed within 5 days (DFNfrozenNorth, 2004). The different results from these two experiments reveal the vulnerability of Wikipedia. First, articles that received relatively less attention are more prone to error—one famous quote on Wikipedia is “given enough eyeballs, all errors are shallow”—the more attention the better the quality. Second, if the change is small in size, it is very hard for the users to spot the differences (one error inserted was to change the year of birth of Layzie Bone from 1973 to 1977). Finally, if there are more “curious” users who deliberately vandalize the Wikipedia, it will then be hard for Wikipedia to maintain its average quality.

### **Conclusion**

As most would agree, the factors making the Wikipedia a success is its high level of openness that attracts the participation of its critical mass. The critical mass devotes their time and energy for different reasons. These reasons can be an interesting research project, as it would shed light on new models of information dissemination. Wikipedia has made itself special as an unique encyclopedia through producing knowledge in an unprecedented way--by being non-commercial with open-content--thus brings in components of point-to-point communications into framed content, which in turn encourages participatory creation of

knowledge by emphasizing the importance of peer production. However Wikipedia still faces some potential threats, specifically credibility building and vandalism. After all, Wikipedia may need more time to prove itself to the public, and hopefully more research on scientific examinations of the credibility of Wikipedia can be done without jeopardizing its contents and integrity.

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