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QUALITY CONTENTS CREATION IN A COMMONS-BASED PEER PRODUCTION ON LINE ENVIRONMENT: THE IT.WIKIPEDIA EXPERIENCE

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ABSTRACT

The increasing growth of Wikipedia poses many questions about its organizational model and its development as a free-open knowledge repository. Yochai Benkler describes Wikipedia as a CBPP (commons-based peer production) system: a platform which enables users to easily generate knowledge contents and to manage them collaboratively and on free-voluntary basis. The quality of its output is one of the main concerns related to Wikipedia. How would a CBPP environment guarantee at the same time the openness of its organization and a good level of accreditation? Which aspects of the project have more influence on quality? The paper offers an overview of one of the quality processes in it.wiki (Italian Wikipedia): the Vetrina section (Featured Articles). It also suggests an explanation to quality accreditation issue which questions Benkler's hypothesis. Thanks to a qualitative analysis carried out through in-depth interviews to Wikipedia users and through a period of ethnographic observation, the paper outlines Vetrina's organization and the social factors related to quality definition. The goal of the analysis is to give a better understanding of co-generation of contents processes and at the same time it tries to investigate quality assessment in one of the best known open knowledge on line project.

KEYWORDS

Commons-based peer production, Wikipedia, quality content, open knowledge, social organization on line

1. INTRODUCTION

Since its appearance in 2001, Wikipedia gained progressively the attention of media and Internet users as an exemplary project of on line collaboration. The biggest Web Encyclopaedia includes today 10 million articles in more than 250 languages and involves about 75.000 active users distributed worldwide (http://en.wikipedia.org/wiki/Wikipedia:About). Yochai Benkler describes Wikipedia as an interesting example of commons-based peer production system:

-«*..networked environment makes possible a new modality of organizing production: radically decentralized, collaborative, and non proprietary; based on sharing resources and outputs among widely distributed, loosely connected individuals who cooperate with each other without relying on either market signals or managerial commands. This is what I call "commons-based peer production"*» - (Benkler, 2006: 60).

Compared to traditional encyclopaedias, Wikipedia shows in fact a decentralized and widely dispersed structure based on the engagement of thousands of people who collaborate spontaneously and without any institutionalized reward. Everyone can contribute in Wikipedia and the output of the peer production, the millions of articles written and systematically revised, belong to everyone as a common good. In spite of its radical openness, the quality of Wikipedia contents is surprisingly comparable to that of the authoritative Britannica (Giles, 2005). Other quantitative analysis revealed that Wikipedia's credibility is highly affordable (Chesney, 2006) and that its capacity of response to false claims is extremely quick and efficient (Magnus, 2008). Its organization in fact, notwithstanding the massive participation and the daily problems related to users vandalism and flaming disputes, showed an incredible solidity and cohesion (Kittur *et. al*, 2007a). Contrary to intuitive expectations, Wikipedia seems so far exempt from the "tragedy of the commons" which Garret Hardin described in his renowned paper in 1968 (Hardin, 1968).

What are the reasons of this development? How could a CBPP environment guarantee at the same time a good level of accreditation and the openness of its organization? Which aspects of the project have more influence on quality?

According to Lih (Lih, 2004), quality is the outcome of a successful combination of Wikipedia principles that can be summed up in "keeping it social and neutral". The online encyclopaedia is based on a complex set of social norms and policies which regulate participation in the community and editing tasks (http://en.wikipedia.org/wiki/Wikipedia:List_of_policies). At the bottom of each rule are the "five pillars of the project": Wikipedia is an encyclopaedia, Wikipedia has a neutral point of view (NPOV), Wikipedia is free content, Wikipedia has a code of conduct, Wikipedia does not have firm rules (http://en.wikipedia.org/wiki/Wikipedia:Five_pillars). The NPOV in particular, guarantees the neutrality and the plurality of opinions: it suggests in fact to present as much opinions as possible on a single subject instead of reporting the prevailing thesis or ideas. This principle is very important in order to handle delicate issues such as abortion, homosexuality, political matters and to moderate flaming debates which can arise among members. The technological platform is also essential for the project management: Wikipedia offers its users software tools, the wiki tools, which enable the easy and immediate update of articles (Edit History), the discussion and the coordination among users and different groups (Talk Pages, Chat, Mailing List) and the efficient management of several tasks: the Watchlist tool for example allows every single user to monitor the articles he's working on and to concentrate on selected tasks at a time.

Others (Anthony *et. al.,* 2005) relate quality to the openness of the system: the spontaneous and self selected recruitment which distinguish the participation in Wikipedia, the policy of free access and the user-friendliness of the technological system encourage contributions from users with heterogeneous competences and cultural backgrounds. According to Anthony's analysis Wikipedia users could be of two types: Zealots, the registered users who constantly submit contents and systematically help to revise and update articles, and Good Samaritans, people who contribute sporadically, most of the time in anonymous way. Nevertheless Good Samaritans prove to be good contributors in the project. Through the evaluation of the quantity of contents retained from a user contribution, the authors formulate a quantitative measure of quality contribution of the two users' typologies and they conclude that Good Samaritans are even better contributors than Zealots. Contrary to the arguments which relate good quality in Open Source systems to reputation issues (Ghosh, Prakash 2000; Lerner, Tirole 2002; Lakhani, Von Hippel 2002), - a registered user with a constant presence in the project is more likely to submit the best output in order to reinforce his reputation –, Anthony et al. find that quality in Wikipedia is more linked to the openness of its organization and technological system. Such an openness encourages in fact both the Zealots to contribute and improve their competences through a constant participation, and the one-time anonymous users to enrich, in informal and unforeseeable way, the development of a common knowledge repository.

1.1 Quality in CBPP Systems: Benkler's Hypothesis

According to Benkler, CBPP systems as Wikipedia evolve toward higher quality standards through a two phases process:

- the first phase or utterance;
- the second or relevance/accreditation phase when system tends to stabilize its content quality both in subjective terms, the relevance of a resource for a particular user, and in objective terms that is to say through the definition of standard criteria to assess the quality project.

In the first phase knowledge production process develops through a wide collective participation: tasks are divided in a huge number of sub-tasks in a voluntary and non-hierarchical way. Collaboration grows spontaneously and each user candidates himself for different tasks: writing or revising articles, checking a portion of code or reading another user's submissions. In this phase quality assessment is up to the user who is motivated by the goal of finding the most useful resource (Benkler, *ibid*.: 69-71). Wikipedia reflects this stage of CBPP quality process: it's a collaborative platform with a huge number of users who voluntary join the project with the aim of systematizing encyclopaedic articles: - "*So, while not entirely anarchic, the project is nonetheless substantially more social, human, and intensively discourse and trust-based than the other major projects described here*"- (*ibid.:* 72).

In the second phase, CBPP environments define methods and solutions to codify the quality of knowledge resources. They could be technological solutions such as collaborative filtering or recommendation systems

used by market subjects as Amazon in order to elaborate purchase suggestions customized on users' choices. Other platforms, E-Bay for example, develop complex reputation systems focused not on the product but on the user himself with the goal to identify the most trustful dealers. Slashdot instead, one of the best known collaborative platforms in the field of technology news on line, ensures its quality resources through an articulated subdivision of roles and functions. Some expert users are elected "editors" and they get a regular payment: they are in charge of monitoring and select the news suggested by other users. Once the news are introduced in the platform and the community begins to post comments, the "moderators" come up: they have to select the "informative comments" and to remove "flaming contributions". Moderators are chosen among users thanks to an automated reputation system based on different criteria: registration to the site, level of participation and the number of "Karma" which estimates the quality of comments posted by the user. If the moderator has a high Karma number, it means that he/she's a good commenter while a low number identifies a poor contributor. The selected moderators work in the project on a voluntary basis.

According to the quality process outlined by Benkler, it seems that Wikipedia could follow this path: starting from a quite anarchic phase based on a voluntary mass-participation, it would move toward a more complex definition of roles and functions aimed at higher quality standards. My paper wants to verify Benkler's hypothesis through a qualitative analysis focused on one of the most popular quality processes in Wikipedia: the Featured Articles section (Vetrina in Italian, http://it.wikipedia.org/wiki/Wikipedia:Vetrina). My survey doesn't concentrate on the content quality itself but it reflects on the organizational and social processes involved in Vetrina: it aims to verify whether quality is the output of the articulations of particular roles and functions as assessed by Benkler, or it is more related to social policies and rules shared by Wikipedia community. The results presented in the following pages are the output of a qualitative survey carried out through 30 semi-structured, in-depth interviews submitted by telephone, e-mail and on line chat to Italian Wikipedia Administrators and active users in Vetrina section[1]. One year (September 2007 – September 2008) period of non-participatory observation has also helped me to get familiar with the main practices and habits in it.wiki while the content analysis of Vetrina's articles and the related discussions allowed me to add new elements to evaluate social processes involved in the elaboration of quality contents.

2. THE VETRINA SECTION IN IT.WIKIPEDIA.ORG: PRINCIPLES, RULES AND PROCEDURES

Vetrina section includes a list of articles considered by Wikipedians as particularly accurate, exhaustive and formally correct. The section is divided in 10 thematic areas, Art, Biographies, Geography, Literature and linguistic, Religions, Mathematical, Physical and Natural Sciences, Social Sciences, Society, History: at the moment there are 388 articles in Vetrina over a total of 479.441 articles in the whole it.wiki. Vetrina section appeared in Wikipedia with the name of "Bella Prosa" (Good Prose) during November 2002. The user Squattaturi remembers:

-" It was born as "Bella Prosa" on the 20th of November 2002. The initial comment of the user Gianfranco was: «If, while you're browsing among our pages, you happen to find an article which deserves a reward for the commitment of his authors, if the article is in good Italian (but if it's not, you have to fix the errors) and its prose is interesting, use this page to point it out to the community. This little reward will be of great importance for those who had collaborated and it will be an useful point of reference in terms of style and logic»-. The first article to get into Vetrina was "Francesco Petrarca" suggested by Gianfranco himself. At the beginning the articles submission was not regulated. On the 8th of March 2005, Blackwolf proposed to follow the model of the English Wikipedia which is based on voting. ArchEnzo made up the title "Articoli in vetrina" and on the 16th of June the first voting started up (the first article voted was "Shakira", it was rejected). On the 2nd of March 2006 Vetrina appeared with the present name" -.

Nowadays Vetrina is articulated in different content areas, each one of those has multiple sub-sections: the Art area, for example, includes the sub-sections Architecture, Cinema and theatre, Photography etc. Vetrina's contents are evaluated according precise criteria: an article has to be exhaustive, accurately plausible, stable and well written (http://it.wikipedia.org/wiki/Wikipedia:Criteri_per_una_voce_da_vetrina). The article must cover the whole subject without omitting important elements neither some significant

[1] The interviews texts analysis has been realized through an interpretative approach.

details; it has to be accurate, stating the facts with notes and references ordered in a bibliography and a list of external links. The article must be stable, that is to say it has to emphasize data and information which don't change too rapidly. The good prose is still a main concern: contents must be written in a good style, with an incisive and brilliant prose. The article must be unexceptionable for its neutrality and accuracy with respect to one of Wikipedia pillars: the neutral point of view. Formally articles have to be coherent with the contents already accepted: they must have an initial paragraph, an incipit, some headings and a brief summary. Images are well accepted where needed, but they must be accompanied by a description and they have to follow the rules of copyright defined by Wikipedia (http://it.wikipedia.org/wiki/Aiuto:Copyright_immagini). The article must also have a reasonable length: it should be focused on the point avoiding the inconsistent details. Those criteria have been initially formulated in 2006 through an open and collective debate about Vetrina's guidelines.

In January 2008 new rules and procedures have been introduced in order to regulate the Vetrina selection process. Today this process is composed by an exam (Vaglio), which is not compulsory but highly recommended, and by the following report (Segnalazione) which is divided in two parts: a 10 day period, review (Revisione), and the final 20 days phase of voting when users declare a positive or negative opinion about the article's admission in Vetrina. The exam consists in a peer review which can be started by every registered user in Wikipedia and it's functional to check the article's conformity to the quality criteria: that's the initial selection process. The Vaglio is based on an online discussion with comments and opinions among users interested: it doesn't have a fixed duration, but at least a week of peer reviewing is recommended (http://it.wikipedia.org/wiki/Wikipedia:Vaglio). Once the exam is closed, users with the right of vote can start the first report phase: the review. In this phase the article is refined according to Vetrina's standards: based on the analysis of ten review procedures (each procedure referred to a particular area of Vetrina: Art, Social Sciences etc..), I found out that most part of reviews concerned the form of texts, the presence of images and the bibliographic references. That's what the administrator Giancarlodessi wrote me about:

-*"For sure a consistent part of the articles is written according to personal knowledge of the subject but the goal is to avoid the development of personal researches and to assure the reliability of Wikipedia contents. Bibliographic resources are indeed necessary. Unfortunately many users have a wrong vision of the citations use; they apply an almost automatic proportion between the article's length and the number of notes and texts cited in the bibliography. Very often this measure is applied without any consideration for the subject handled, especially in the field of specialized issues. This is leading Vetrina toward a wrong use of notations because they tend to increase in spite of their actual usefulness"*-.

La Pizia as well, administrator since November 2007, confirms the strategic role of citations:

- *" One of the foundations of Wikipedia are citations, the references to something already written. That's a very relevant matter also because copyright problems are solved before in an automated way. Wikipedia has a wide number of bots (automated software) which systematically browse the web comparing the contents edited in Wikipedia with the ones in other sites. These bots are able to tell us if our articles violate any copyright and if it is the case, the administrators remove the contents"*-.

The review as well is based on an open on line forum with posts and comments among users who participate voluntarily: every user can take part in the review. Nevertheless the observation of posts submitted suggests that participation is quite limited: max 6 o 7 users actively contribute and in most cases the user who proposed the review is the one who takes charge of contents review and update. Quite often users are involved in the review after an "open call" in Bar-Progetto (Project Bar): those are small users communities who work on a specific topic or subject, Latin History or Italian Cinema for example. This kind of call is considered an acceptable practice while "electoral campaigns" are highly discouraged. The administrator Pietrodn refers:

-*"The electoral campaigns are a serious problem. Some users force others to vote for an article with a link to the content in their nickname. I consider this practice incorrect and harmful for the voting result"*-.

The user refers to the practice which consists in introducing in one's own nickname the link to the candidate article for Vetrina: clicking on that part of the nickname, the user is re-addressed to the page of the article's voting. That link represents an implicit suggestion to vote. For this reason electoral campaigns are highly condemned by Vetrina's guidelines: their use could invalidate the selection procedure and lead to the removal of the candidate article (http://it.wikipedia.org/wiki/Wikipedia:Vetrina/Segnalazioni).

After the review phase, the voting begins: during 20 days users with the right of vote can decide the article's admission to Vetrina. If they express a negative opinion they have to make a precise reference to the parameter the article doesn't satisfy: negative and unjustified votes could be excluded from the voting and

removed. The article is selected if it gains the 80% of positive opinions and at least 10 explicit votes. According to the practice observed, the article review doesn't stop with the beginning of the voting: the negative and motivated opinions aim at pointing out the feeble aspects of the contents but those mistakes could be easily fixed during the voting process. This practice is also aimed at achieving consensus among users. It's a good policy of the community that of emphasizing the method of consensus to solve problems rather than voting: in Vetrina case, voting is more useful as a poll to identify errors rather than a decisive tool to judge a question (Wales, 2005).

Starting from the initial version in 2002, Vetrina became a quality filter more and more complex: asking the users whether Vetrina had improved or not the quality of contents, Eltharion says:

-*"It improved the quality for sure. Today for example it happens that the first articles admitted are removed because they don't stand the present basic quality requirements"*-.

Other users, as the administrator M7, believe that Vetrina procedures should become even more selective:

-*"Progresses have been made but it's still too easy, some articles just go. We might be more exigent. If the number of Vetrina articles is limited that's not a problem, other contents are improving. Time is not a problem for us"*-.

Generally most users agree that Vetrina's quality process became harder and that the work expected on reviews got more and more complex. The administrator Salvatore Ingala says:

-*"That's not easy indeed, it takes a lot of patience to write a complete, accurate, reliable text… the existence of a place (Vetrina) where you can tell the excellent articles from the good ones, in my opinion, encourages users to reach the excellence because it gives some points of reference and stimulate other users to help in the review.."*-.

2.1 Roles and Functions in Vetrina

There are no codified roles neither users with particular privileges in the process of editing and reviewing quality articles: apart from users who start the Segnalazione (report) who have to be entitled with the right to vote, the contents creation and selection grows up on peer basis. Wikipedia Administrators don't have a specific role, neither the other positions formally recognised by the community, Stewards, Checkusers, and Burocrati, are entitled with any kind of privilege[2] (http://it.wikipedia.org/wiki/Wikipedia:Amministratori): they perform technical tasks (platform management, users' nickname check, vandalism reports etc.) and normally they don't interfere in the collective management of knowledge resources. Nevertheless, contents report and review emerge from the analysis as well coordinated activities. Vaglio and Segnalazione procedures offer fundamental tools for peer collaboration and represent at the same time useful "filters" for quality process.

Italian Vetrina shows also a significant feature: a firm opposition against the definition of any kind of formal role. According to Viegas et al. (Viegas et al., 2007) the English Featured Articles (the Vetrina correspondent in en.wiki) is coordinated by a Director who is in charge of the Featured Article front end management. The Italian community shows instead a critical position toward the nomination of a coordinator or a committee. Lusum, administrator and checkuser, told me:

-*"We don't have any arbitration committee, just votings or discussions… we don't need a director… he would be blamed of everything every time he intervenes… but sometimes big arguments arise and it's not the case to have a committee… arguments relate mostly to delicate issues, euthanasia, political personalities, religious articles… it's very difficult that such articles would get the 80% of positive votes… articles such as euthanasia, Cristopher Hitchens and others I don't remember were reported but invariably rejected... there were too many controversial aspects… the director would be in this case too exposed to critics…"*-.

Massimiliano Lincetto:

- *"I don't know very well the English Wikipedia but we don't have anything of the kind in the Italian version. You have to consider that other wikis adopted different procedures. An example is the arbitration committee, a group of users elected by the community who's in charge to solve certain disputes. Notwithstanding the fact that some of us would agree to have such a committee, we maintained a contrary position about giving more power to one or more individuals. Personally I consider this an aberration: Wikipedia system shouldn't have users with different decision-making power"*-.

[2] It.wiki has at the moment 95 active administrators: some of them have also the position of Burocrate or Checkuser.

Castana:

-*"In Italy we don't have any Vetrina director because our procedures are different. It.wiki strictly codified those practices (length of the voting, majority required) that en.wiki delegated to the "FA director"*-.

The Italian community has indeed defined rules and procedures in such a way that it can avoid codified roles o functions in charge of managing authoritatively the quality process. As the users statements show up, quality management is up to the whole community: the selection process finds its principles in regulated editing procedures based on peer collaboration.

Community shows awareness about the difficulty and the commitment required in exam and review procedures and in recent years those processes got more and more difficult and time spending. Nevertheless there's a wide number of dedicated users who commit themselves, evidently more than others, in writing and reviewing articles they're particularly interested in. In spite of this evident engagement and merit, the survey shows that Wikipedians are quite reluctant to recognize their contribution with respect to the Encyclopaedia project. Asked about motivations which presumably lead some users to work hard in Vetrina, most of the people declare that personal reasons such as *satisfaction, popularity, vanity* seem the more likely motivations.

Salvatore Ingala explains:

-*"Probably they want to have a tangible proof of their job's quality and a personal gratification"*-.

Eltharion:

-*"I'm not sure, normally there are personal reasons, an article in Vetrina doesn't bring anything to users, so everyone can have a different motivation"*-.

The administrator M7:

-*"It's a mix of little personal gratifications, passions, interests etc.."*-.

The administrator Mau-db:

-*"Unfortunately motivations are popularity and personal pride rather than the will to present a good product for everyone"*-.

Jalo:

-*"I believe it's all about vanity, otherwise I wouldn't explain the difference between writing a perfect article and writing an article for Vetrina"*-.

From those comments emerges the idea that the commitment in Vetrina is related to personal motivations: the advantage for the whole project seems just a secondary aspect. A similar attitude arises also in relation to the opportunity of recognising the role of those who elaborate the best quality articles. When asked: -" How would you judge a formal acknowledgement, in terms of merit in the election for administrator for example, for users who show a particular commitment in Vetrina?"-, users (most of them are already administrators) expressed a negative opinion:

That's what the administrator Lusum wrote:

-*"No… that's an encyclopaedia based on voluntary work and those acknowledgements are not admitted... I don't know… recognitions shouldn't be too attractive otherwise people may be led to cheat, making lobbies or introducing copyright violations… Vetrina is not an administrator's duty, we have more important things to do such as fighting vandalism, copyright violation, consensus alteration, and protecting wiki from legal actions..."*-.

The administrator Jalo:

-*"No, no favouritism. There are many ways to improve Wikipedia even without working in Vetrina"*-.

The administrator Valepert:

- *"No. If there are people very good at writing quality articles, their engagement somewhere else wouldn't improve the encyclopaedia quality. A formal acknowledgement probably avoids to forget mistakes in articles related to the subject in Vetrina but there's the risk of becoming dependent upon an individual point of view"*-.

3. CONCLUSIONS

It.wiki Vetrina offers many critical cues related to Benkler's hypothesis. Even though Vetrina is recognized by the community as a functional system to select and produce quality contents, its organization, procedures and principles differ widely from the experience of a CBPP as Slashdot. In Slashdot, quality is the output of a complex subdivision of formalized roles and functions. On the contrary, the survey reveals that Vetrina's

quality process grows up on a peer, self-selected and voluntary basis. Every single user can be an "editor" or an "author": competences and skills are self-assessed and not evaluated by automated reputation systems as in Slashdot. At the same time, Wikipedians tend to reject the definition of codified roles in the matter of content quality. Stating the role of "an individual author" or "Vetrina director" might encourage in fact, the emerging of unilateral points of view in spite of one of the project's pillars: the NPOV. It.wiki community seems to avoid any kind of personalism and tend to hold in higher regard technical roles as Administrators, Burocrati and Checkusers who are devoted to daily management activities. Those roles, especially in the words of the directly involved people, are considered the most important for the encyclopaedia's development and maintenance. I can conclude then that, contrary to Benkler's hypothesis, quality in it.wiki doesn't depend on a progressive definition of roles and competences as observed in other CBPP experience. Nevertheless Wikipedia is very far from being a semi-anarchic system: the project shows a structured and dynamic social system which seems to evolve toward an even more complex organization based upon multiple policies, procedures and rules (Kittur et al., 2007b). Vetrina represents a sub-world which reflects in its articulation the widest system it belongs to. In the development of this sub-system, procedures, rules and social norms have a strategic role. Quality indeed seems to be, as also Viégas (Viégas et al., 2004, 2007), Lih, (Lih, 2004), Emigh and Herring (Emigh, Herring, 2005) observed, the result of those principles observation and common acceptance, the output of a community culture considered as the whole of rules, values and procedures rather than the product of a formal organization.

Those results give a better understanding of co-generation of contents social processes and put a new light on the transformation of CBPP systems on line: it.wiki experience shows that open knowledge on line organizations could reach higher quality standards even without codified roles and institutionalised rewards. Emergent coordination and self-selected competence regulated by shared social rules and practices may in fact play a fundamental role in the development and management of common knowledge creation.

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