

When Online Communities Become Self-Aware

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Abstract

Evidence from a long-term participant observation suggests that a critical point in the evolution of an online community occurs when participants begin to focus less on topical content and more on one another. When content restrictions were removed from a question answering community and social technologies were introduced, the proportion of factual content on the site steadily diminished in favor of more social content: questions specifically about site users and appropriate behavior, suggesting an awareness of themselves as a community. Positive effects of self-aware behavior included increased site participation, social support and open normative debates. Negative effects included increased conflict, rogue behaviors and factionalism.

1. Introduction

It is a truism that people will find ways to use systems in ways their designers never intended [11]. In Web 2.0-type online communities, where user-generated and user-vetted content is the main attraction of the site, this kind of self-perpetuating evolution is often encouraged. However, the process of how designer intent diverges with actual use has been understudied [14]. This paper analyzes the evolution of an online question answering community that was initially designed as a purely factual repository, but was transformed by its users into a predominantly social site. The evidence suggests that a critical factor in the evolution of this community occurred when the focus of the content changed from factual questions and answers to more inward-looking questions about individual users and the community itself. In a sense, the community became self-aware.

In a standard sci-fi movie, when a computer becomes self-aware, it changes from a question answering device to something that thinks, feels and acts to preserve its newly discovered self. Online communities exist within a structure of social and

technological affordances. Using structuration theory as an analytical framework, the process by which members of an online community simultaneously operate within and work against the constraints imposed by site designers and administrators can be seen as the process by which individuals become aware of themselves as a members of a community.

An ongoing investigation of an online question answering community revealed a new class of social questions being asked by community members. These questions did not so much challenge site policies as they sought to define the community and its users, to articulate individual roles and experiences, and to gain consensus on what constitutes appropriate behavior, beyond the official policy manual. These inward-looking questions drew a disproportionate amount of attention, traffic and conflict, and warranted further study.

2. Background

Most studies of online or virtual communities focus on two primary reasons people participate: information exchange and social interaction [16]. Early definitions of online community tended to include an explicit topical focus, for example that proposed by Fernback and Thompson in 1995: “social relationships forged in cyberspace through repeated contact within a specified boundary or place (e.g., a conference or chat line) that is symbolically delineated by topic of interest” [5]. The topical focus was de-emphasized in an informational/social hybrid definition of online communities suggested by Ridings, Gefen and Arinze in 2002: “groups of people with common interests and practices that communicate regularly and for some duration in an organized way over the Internet through a common location or mechanism.” [17]. Rheingold’s 1993 definition encapsulates the purely social view; online communities can yield “social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal

relationships in cyberspace.” [15]. Even before the Web, early online communities in the workplace that were designed for information exchange often crossed over into the social realm, sometimes to the point of what would today be called online addiction [9]. Then as now, while system designers and administrators may attempt to define appropriate use, individual needs and motivations drive interaction and engagement.

By these definitions, Web sites or information resources where people have irregular or read-only interactions do not qualify as online communities per se [3], though some researchers have argued that the role of non-participating “lurkers” should not be neglected [2]. Shah, Oh and Oh [18] compared the Yahoo! Answers social Q&A site and the Google Answers question answering service, and concluded that the latter site failed in large part because it did not allow for sufficient interaction and community-building among its users. Fernback [4] has argued that the concept of community has been widely co-opted by profit-seeking online entities, and should be viewed critically. She calls for a focus on commitment, not community, as the desired social ideal behind online interaction. The study described in this paper focuses on identifying evidence of user commitment to an online community.

Online or offline, meaningful group membership does not just happen. A community is defined by shared interests and mutual support [10, 20], and has formally or informally codified rules for membership. In a Web 2.0 environment, there are often multiple communities operating simultaneously within the same site, at different levels. One might engage with fellow parents, fellow shoppers, and fellow aficionados of a particular music group as separate communities, while being part of the overarching online community imagined by the site’s designers. What constitutes shared interests, mutual support, and appropriate behavior may vary from place to place. Add to this people’s interactions on other sites and in their offline activities, and the image is not one of atomic group membership and participation, but of multiple overlapping social worlds.

Haythornthwaite and Hagar [8] adopt a social worlds [19] approach in a review of recent Web research, emphasizing the centrality of people’s tasks, activities and relationships in their online activities, and de-emphasizing the particular media through which they interact. They find that many researchers have applied pre-Web social theories and perspectives to Web behavior, including actor networks [12], communities of practice and legitimate peripheral participation [13] and structuration theory [7]. The latter posits a co-

evolutionary relationship between the constraints of the established social order of a community and the actions of its members, both within and outside those constraints. Particularly relevant to this discussion is user agency; combined with the relative speed that an online environment affords for learning, negotiating and performing social roles, relationships and actions, one would expect communities in online environments to experience accelerated evolution.

When an online community is based on user-generated content and interaction, and provides tools for members to exchange information both publicly and privately, conditions are ripe for oppositional views about what constitutes appropriate use to be expressed. Those seeking information exchange may find that social interaction between users clutters their experience. Conversely, others may find the informational component of the site as little more than a convenient framework for social interaction. Structuration theory would predict that individual users would act within the affordances of the site to maximize their areas of interest, and that the actions of users in the aggregate would drive change in the structure of the community, beyond the intent of the site’s designers.

Of course, designers are not powerless. They can make it easier or harder for individuals within a community to interact, or to bend or break the rules in a way that publicly challenges existing community structures. I argue here that a precondition for these potentially transformative discussions among members is self-awareness, which operates at the level of both the individual and the community. Self-awareness happens in two stages: the first when individual members acknowledge that there is a community around an information resource, which is operationalized in this study as when new users engage with established users about the community, for example by asking normative social questions. The second stage occurs when users acknowledge themselves as members of the community, and express particular ideas of appropriate behavior, for example by answering normative questions and creating clubs of like-minded users, through which self-awareness spreads. Thus, self-awareness can also be seen as a property of the community as a whole, necessitating a data collection approach that focuses on user behavior both individually and in the aggregate.

This brief review suggests that the value people derive from participation in online communities is both informational and social, that community members actively and continuously negotiate what membership means, and that a significant factor in

understanding participation and engagement is evidence of user commitment to the community.

3. Setting and method

Answerbag (<http://www.answerbag.com/>) is a virtual community of question answerers. As of June 2008, the site's traffic exceeds 7 million unique visitors per month, roughly 400,000 of whom are registered users, with the ability to post, rate and comment on questions and answers in over 4,000 topical categories. While 'lurkers' who view Answerbag Q&A pages without registering constitute over 90% of site traffic, for the purposes of this study only registered users are considered members of the community.

This study is part of a long-term participant observation. Answerbag is both a live Web site and a research testbed, and administrator-level access to all site data was available.

When Answerbag was launched in April 2003, the designers initially imagined it as a repository where a wide variety of frequently-asked questions (FAQs) from Usenet could be harvested, collocated and made searchable. Traditional FAQs have one question and one answer, but the designers adopted a one question—multiple answers framework, which allowed more diverse perspectives to be included. Initially, users were able to ask questions, append multiple answers to a given question, and rate answers on a simple scale: Useful (100%), Somewhat useful (75%) or Not useful (50%). Answers were displayed in descending order of rating, performing a collaborative filtering function.

At this early stage, Answerbag was not an online community. Users did not interact *per se*; they asked, answered and rated content identified only by their chosen handle. Their perceived trustworthiness was distilled into a raw percentage of how their answers had been rated by other users. Moderators disallowed social questions, and there was no functionality for discussions around answers.

In 2005, the Web 2.0 model of user-generated content was gaining popularity. People expected to be able to have discussions around questions and answers, and to know more about the people who were providing and rating them. Users resisted the factual-questions-only limitation, and began to lobby site administrators to remove the constraints on content. Newcomers, who increasingly entered the site after a Web search engine yielded an Answerbag page among the results, posted without regard to site policy, and soon moderators were removing as much content as they were allowing. Some moderators

resisted removing popular though opinion-based questions that drew heartfelt and emotionally charged answers, such as:

How many times a year do you find yourself crying?

Many moderated online communities have a no 'boards on boards' policy; i.e. content must be topic-based, not user-based. If meta-content about the community or its users is permitted, it is usually confined to a separate board. Answerbag, in contrast, provided no way to confine social questions to one area of the site. One approach that has been implemented, but which to date has drawn little attention from users, is the ability to flag questions as 'educational' or 'conversational,' with the idea being that users interested in one could use these flags to filter out the other. However, usage of this feature is well below 10% of all questions submitted.

In late 2005, Answerbag changed its policy and allowed social questions, and saw an immediate increase in site traffic. The site then implemented some of the functions of other social networking sites, such as personal profile pages, friends lists, RSS feeds and email notifications. A more refined rating system allowed users to accumulate points for good answers instead of a raw percentage, rewarding longtime members. Public leaderboards allowed people to see where they ranked, and high-ranking users received the ability to uprate or downrate content as much as six points, while new users could give or take away only one point. Comments could be appended to answers, to allow unfettered discussion. With the increasing volume of submissions, 100% content moderation was abandoned, in favor of a system where users could flag individual questions or answers as spam, nonsense or otherwise inappropriate, placing them in a queue for administrator review. Following structuration theory, all of these policies and functions created more affordances and fewer constraints for users, and provided them better tools to interact, and potentially reshape the Answerbag community.

The study discussed here focuses on the period between January 2006 and April 2008, when the technical and policy framework had been implemented to allow more social interaction on the site. In the first phase, a content analysis was performed on a random sample of 1,000 questions posted within this time frame that were coded as potentially social, based on question content only. Social questions were initially operationalized as anything conversational, calling for an answer based

on opinion rather than fact. In a second pass, selected questions were re-evaluated based on the answers, comments and ratings they received. User profile pages and site activity were also examined.

An attempt to create coding subcategories of social questions revealed a new type: questions specifically about Answerbag users, behavior and community. Examples include:

Do you think you are a good Answerbagger? Why?

Is your persona on Answerbag you or your alter ego?

Whose answers on AB do you most look forward to reading?

The investigation was then narrowed in scope, to focus on the following two research questions:

- What kinds of evidence support the idea that Answerbag is a self-aware community?
- What are the effects of self-awareness in an online community?

The questions in the sample formed the basis of the initial content analysis, but answers, comment threads and ratings attached to these ‘inward-looking’ questions were also analyzed. The profile pages and activity of users who posted and responded to questions about Answerbag as a community were also analyzed. Certain details have been altered to preserve the anonymity of the participants.

4. Results

4.1. Statistical analysis

Based on estimates from site moderators, from January 2006 through April 2008, the percentage of social questions on Answerbag rose from effectively zero to roughly 50%. Add to that the number of social answers and comments that have been appended to factual questions and answers, and Answerbag is now very much a hybrid of fact and opinion.

Of the 1,000 potentially social questions in the initial sample, 49 were removed due to coding errors (for example, questions about Answerbag’s technical functions that were not social) and the fact that some questions were duplicates of others outside the sample. In the latter case, the duplicate question was

substituted with the original in the sample, yielding 979 social questions after the first pass. Of these, 177 (18%) were social questions about Answerbag and its users, with a generally increasing trend.

Table 1. Social questions about Answerbag (n=177).

1/2006-4/2006	6
5/2006-8/2006	12
9/2006-12/2006	23
1/2007-4/2007	24
5/2007-8/2007	29
9/2007-12/2007	42
1/2008-4/2008	41

Informal discussions with site moderators confirmed the general accuracy of the sample, though several felt that the percentage of social questions about Answerbag coming onto the site was being understated in the sample.

Further statistical analysis employed the points and level system native to Answerbag. As mentioned previously, users accumulate points when their questions or answers are rated positively by other users. They can also accumulate points by flagging inappropriate or miscategorized content. Upon registering, users have the title “Level 1 Beginner.” Points are in essence the virtual social capital of the site, and translate into higher levels and titles, as well as an increased ability to award or take away points from content submitted by others. A user’s level number is appended to their username and also appears in their user profile, so other users can quickly assess the expertise of any user who contributes a question, answer or comment. Subsequent milestones include “Level 5 Contributor,” “Level 15 Authority” and “Level 20 Expert.” Since ninety percent of registered users never make it beyond Level 1, the average level of askers and answerers of any single question tends to be quite low, approximately 1.6. However, the average level of user who asked or answered an social question about Answerbag or its users was 14.4. Only after a significant investment of time and energy in the site do most users begin to identify with and question the site and its users, and engage with these types of social questions.

Not surprisingly, given the high average level of users who ask and answer questions about the community, the ratings for these questions and answers are extremely high as well. The average question garners roughly a +4 rating, though this average is artificially low, as it includes thousands of questions that were submitted before the site allowed

questions to be rated as answers have always been. With this caveat, the average rating of social questions about Answerbag in the sample is 21.9.

Similarly, the average question receives 4.2 answers, and the average answer receives 0.92 comments. In the sample, a social question about Answerbag received an average of 7.7 answers, with each answer drawing an average of 4.9 comments.

Again, these statistics must be understood in the context of the site, which includes a friends list feature that allows users to selectively view, and possibly rate or answer or comment on, one another's content. Questions and answers can be edited or deleted after they have received answers or ratings, and users have the ability to revisit content and adjust their ratings. Therefore the raw numbers, means and percentages presented here must be understood as a snapshot of a dynamic system, and no deeper statistical analysis has been attempted. However, the numbers suggest that social questions about the Answerbag community itself have drawn a disproportionate amount of attention and participation from high-ranking users.

4.2. Content analysis

The initial content analysis of social questions focused on Answerbag including an initial coding based on the question text, with a coding check based on a subsequent analysis of the answers and comments attached to the question. Fewer than 2% of questions needed recategorization. The analysis yielded a list of question subcategories, summarized in Table 2.

Table 2. Subcategories of social questions about Answerbag (n=177).

Congratulating other users, usually for leveling up	78
Normative; appropriate site use	55
Reflective; one's own role in the community	21
Suggestions for new clubs/groups	13
Superlative users; who is funniest, etc.	10

One example of how users reshaped the rules of the community after the restriction against social questions was lifted can be seen in the question breakdown above. Offering congratulations to another user does not naturally occur in the form of a question, but to give the appearance of playing by the rules of the site, members of the community usually phrase congratulation questions in the form of a question, however awkwardly:

Our beloved RosieG has made Maestro! Who would like to join me in congratulating her?

Leveling up is a public and tangible acknowledgment of increased status within the community, by the community. When such questions are posted, they are usually very highly rated. Answerers express thanks for the user's contributions, often including images of balloons, birthday cakes, or other celebratory accoutrements.

While the ritual of celebration via social questions is almost always positive, it sometimes reveals a backlash by users who resent the "cheap points" such questions accumulate, or who have had conflicts with the user being congratulated. While it is considered extremely bad form to "crash a party" and post negative comments or ratings in a congratulation question, in nine cases in the sample (11.7%), new accounts were created solely to post negative comments, thus shielding the poster's primary identity from retaliation. Creating multiple Answerbag accounts is not against the rules, unless the alternates (sometimes called "sock puppets"), are used to create conflict, game the rating system or otherwise break the site rules set by administrators.

However, at a different level, users also set site rules. Users are acutely aware of what they define to be misbehavior, and they act to correct it, akin to a self-organizing system [1]. Attacking or abusive answers are flagged and reported to administrators, and when a user feels they have been unfairly downrated ("trolled," in the common parlance of the site), they can privately or publicly report it and be sure to receive uprates to balance the damage, usually from users on their friends list, or from other members of Answerbag clubs to which they belong.

Most germane to this discussion are the competing visions about what constitutes misbehavior. These are debated by users most often within answers and comments connected to social questions about Answerbag. Congratulation questions have made the community aware of several schisms. Should points be awarded judiciously, only for the most useful and thought-provoking questions and answers? Or freely, as each user sees fit? What are the consequences of each approach for the community—and what are the consequences of people adopting different approaches? While these and other issues of what the community should be are debated within answers and comments to congratulation questions themselves, they are addressed more directly by the community in normative social questions:

When people congratulate other people on here, are they just doing it to get points?

Recalling Fernback [4], the community metaphor is often co-opted for less than altruistic purposes, and this question is one of many that suggests that users are openly challenging both the motivation of community members and the reward structure of the site. Other normative questions include when to uprate and downrate, the proper etiquette for declining a friend request, and the appropriate threshold at which conflict with another user should be brought to the attention of the site administrators.

Some users post normative social questions in a thinly (or not at all) veiled attempt to react to a perceived slight from a particular user:

What do you think should be done to a user who posts a question asking for opinions then downrates any opinions he disagrees with? See my profile for more details.

While most users are well aware that one of the core site rules set by administrators is not to attack other users, through questions such as this, as well as carefully worded answers and comments, they can communicate the identity of the person or persons with whom they have had a disagreement, without resorting to outright “naming and shaming.”

The analysis also found that normative social questions are frequently used by established members to indoctrinate new members. For example, new members commonly join the site and ask:

So how do you get points on here?

Established members often provide links to normative social questions in answers, comments and in their personal profiles, to expose new users to the consensus community opinion. Of the 55 normative social questions identified in the sample, links to 26 had been posted by other Answerbag users elsewhere on the site, some more than once.

Indoctrination is a key component of the site’s social function. New users who enter the site from a page of search results on another site are immediately confronted with usernames with arcane acronyms (e.g. Jabberwocky ATC Freebagger), avatars, rating points and titles. While questions and answers are straightforward, sometimes long comment threads resemble running jokes or chat transcripts, and may have everything or nothing to do with the question or answer under which they appear.

Since the framework of the site revolves around asking and answering questions, and rating the

contributions of other users for collaborative filtering, new users can gain social capital by performing these tasks at a low level. Though new users can only give or take away one point instead of the six that advanced users can, if they ask interesting questions, provide good answers, and thank users who respond to them, they can get noticed by high-ranking friends, and advance fairly quickly. Established users can, akin to a pyramid scheme, add to their power base by taking new users under their virtual wing, adding them to their friends list, and including them in the circle of notifications of friends’ activity, where their contributions will be selectively viewed by higher ranking members, who are able to give more points.

Another way new members are indoctrinated, and existing members express their views about the community, is to form and join Answerbag clubs.

I am getting quite tired of kids asking their homework questions on AB! Will anyone join me in making a DYOH - Do Your Own Homework club?

Answerbag clubs such as this are spontaneous expressions of users’ shared conceptions of appropriate community behavior, and one indicator of a self-aware community. Members of this particular club downrate obvious homework questions, flag them as spam or nonsense, post answers and comments vilifying the poster for not doing their own homework, and occasionally post false answers, all in the name of preserving and publicizing their view of a no-free-lunch community:

We are a community of knowledge seekers and sharers. We respect above all things the journey toward enlightenment. So do your own damn homework.

Seventeen clubs were identified after analyzing the 13 questions coded in the sample. By comparison, in the twenty months prior to the factual content limitation policy change and implementation of social functionality onto the site, no Answerbag clubs could be identified. Though the precise number of clubs and members is difficult to pinpoint, since many groups of experienced Answerbag users interact off the site, and some members do not choose to append the club’s acronym to their usernames, the seventeen clubs involved approximately 80 members, with an average level of 22.6. Almost every club included at least one member above level 40.

Questions about Answerbag clubs draw a very high level of traffic and ratings, particularly due to members’ tendency to append the acronym to their

username, and link to the forming question in their personal profiles. All Answerbag members can edit their usernames at any time, so upon joining this or another club, members commonly append their club acronyms to their username; “DYOH” in the above example. Every question, answer and comments submitted by a member is then tagged with this acronym, retroactively appending it to every piece of content the user has ever submitted.

Other clubs are more casual and whimsical, including Ninjas, Jetpackers and Freebaggers (members of the latter group purport to use the site while naked). ABFB (Answerbag Funny Bastards) was formed in response to other clubs and users which the founders felt took themselves and the site way too seriously, and that a humorous reply to a serious question is just as valid as a factual one.

Clubs have been the primary focal point of conflict between groups of users with divergent opinions about both the nature of the community, and appropriate use of the site. Club-related questions are disproportionately flagged as spam or nonsense (almost 40% of these questions in the sample drew at least one flag), both by those in opposition to the club’s views, and by those who generally oppose Answerbag clubs as divisive and against the spirit of the site.

However, it is precisely the spirit of the site that is being negotiated by users via club membership and activity. For example, one club of grammar hounds formed, who flagged as nonsense any instances of “textspeak,” such as substituting “ur” for “your.” Some longed for the old days of Answerbag, when content was not only 100% moderated, but 100% copy-edited. In an error-free email to administrators defending her strident comments to one textspeak poster, one member claimed she was simply defending one of the last bastions of intelligent discourse from the texting barbarians, whom she felt sure would be happier on some other site. On the other hand, some users claimed that editing for grammar was akin to censorship. Several high-ranking users, in a comment thread attached to a textspeak-heavy question in a video game subcategory, claimed that the Answerbag rating system was best seen as a reflection of an answer’s perceived usefulness, and in categories that appeal to generally younger and more text-friendly people, such as Video games, an answer expressed in perfect English might be seen as less useful and trustworthy than one in which textspeak was used. Engaging in these debates afforded users the chance to reach consensus on when and where diverse forms of expression are more or less appropriate on the site.

Perhaps the most intense conflict between user factions has centered around the formation and activities of several “anti-troll” clubs. Since rating points are the coin of the Answerbag realm, those who feel that their questions and answers have been downrated by others out of ignorance or vindictiveness have sought to formalize the existing community practice of uprating unfairly downrated content. Club members monitor preselected comment threads for reports of abuse via the notification function, then “call out the troops” and systematically swarm and gang-uprate any content they feel has been unfairly downrated—usually that of the club’s members. However, since selective uprating has the same effect as selective downrating, some anti-troll club members have been accused of being trolls themselves. “Taking the law into their own hands” and “Who polices the police?” are common refrains in answers and comment threads attached to anti-troll club related questions. Taken together, the various anti-troll clubs have drawn the most members, (at least 50) and the most complaints to administrators. At least one such anti-troll club formed, was reported for perceived abuses by other users, then went “underground”—its members continued the same activities as before, but communicated solely off the site.

One way to achieve social capital within a community is to articulate a vision of the community that resonates with its members. This can be done at the micro-level, in the form of questions and answers about the community itself that others find interesting or useful (evidenced on Answerbag by ratings and pageviews), or at a more macro-level, by organizing groups around issues of common interest to many members. In short, clubs formed spontaneously around ideas, providing further evidence of Answerbag as a self-aware community.

5. Discussion

The results of the statistical and content analyses show an increasing number of social questions focused on Answerbag, and that these types of questions attract a disproportionately high number of answers, ratings and comments from more established community members. Other tangible evidence of Answerbag as a self-aware community includes rituals of indoctrination, membership and congratulation, debates about normative behavior, and the formation of clubs with like-minded members. Analyzing the data both within and beyond the sample yielded considerable evidence of users who are aware of themselves as part of a

community, and through the use of various tools and strategies both on and off the site, actively work to shape it.

It is important to note that very few of the social questions related to Answerbag in this study dealt with site policy at the level of site design and administration. Users seek to reward and celebrate achievement within the community, provide information and social support, and negotiate, publicize and enforce standards of behavior.

From the point of view of a new entrant into the community, structuration theory would predict that an individual first engages with the existing structure (signification), then challenges or reproduces that structure through their actions (domination), resulting in a transformed social system (legitimation) [7]. In the online question answering community studied here, this general pattern can be observed in the high number and popularity of inward-looking, community-focused content, which suggests that an important precondition for the continual creation and renegotiation of the community's structure is self-awareness. Individuals may engage with a Website in innumerable ways and not necessarily acknowledge the existence of a community around the site's content, let alone view themselves as a member. Similarly, an online community may serve its members well simply as an information resource, with no significant interaction or structural transformation, given the affordances of the site. But when an online community gives users the means to interact and question the community itself, those who have invested enough time and interest to question the limits of the site, and who engage with other members to seek and articulate consensus on appropriate behavior, constitute members of a self-aware community. The results suggest that the agency of self-aware individuals has more traction within the Answerbag community; newcomers who attempt to make statements about "us" are directed to past normative social questions, answers and comment threads, often quite abruptly. Over the course of this long-term participant observation, which began in 2004, many users, groups and conceptions of what the site should be have ebbed and flowed in popularity. The longer an individual participates in the community, the more likely they are to express or support some tangible notion of what they believe the community should be.

This paper has employed structuration theory to frame several proposed indicators of a self-aware community, to understand the increased level of community participation witnessed after Answerbag became a social site. Structuration theory is one of many social science theories that have been applied

to online environments—it is natural to wonder about the extent to which the interpretations and applications of these theories within information science have influenced social theory. From a more instrumental standpoint, if the dynamic structure of online communities can be planned for and tracked by designers, how might individuals and communities in the real world be encouraged to become more self-aware, and more engaged?

The notion of self-awareness in online communities has several practical implications. While designers cannot plan the evolution of an online community, they can plan for it. Most Web 2.0 functionality—friends lists, ratings, notifications to name but a few—are simply tools for focused interpersonal interaction, allowing users to listen to the community to engage with it, and to shape one another's experience. The lifeblood of online communities is not content, but interaction. It follows that the importance of maximizing opportunities for user-user, not just user-system, interaction is key to building and maintaining a thriving community. For example, most sites allow users to send feedback and suggestions to site administrators, but few allow users to view and respond to one another's site suggestions in a publicly viewable forum. Answerbag designers did not plan for this functionality—users created it in questions, answers and comment threads—but it is one arena for self-reflective conversations among members of the community. This also allows site administrators to understand how users are continually reshaping the community to fit their needs.

Positive effects of community self-awareness include increased participation, sometimes to the point of obsession. It can also provide evidence of differences between users and designers about the purpose and functionality of the site. So many questions have been asked about overparticipation on the site that a new subcategory for "Answerbag addiction" questions was created. It is not uncommon for high-ranking users to log into the site and remain active for hours at a stretch, sometimes for several such sessions per day. Future research will investigate how and why these high participators sustain such intense interaction. Other positive effects of community self-awareness include the open debates about normative standards and the indoctrination of new users by other community members. Negative effects include user conflict, such as the creation of sock puppet accounts for surreptitious downrating and other rogue behaviors [6], which can sometimes be quite serious. However, labeling the effects of community self-awareness as

positive or negative must be done with caution, since for some community members, trying to break the system and engage in conflict with other members might be a primary attraction of the site.

When individuals express opposing views in a virtual community, it usually goes no further than the content of the answer or comment thread. However, organized opposition from overzealous members about site-appropriate behavior via friends lists and competing clubs can seriously fragment a community. Site administrators have received complaints about club members recruiting new and existing Answerbag users via unsolicited emails. External Web pages have been created to escape the purview of site administrators, with group manifestos, discussions, polls and even enemies lists. The preponderance of clubs, acronyms and forcefully expressed opinions has made several users report feeling excluded, even intimidated, by not being a member of a club. Some have left the site as a result, claiming that there is "just too much drama."

However, a silent majority of Answerbag users, some actively and some passively, simply do not participate in the social aspects of the site. Since both the positive and negative aspects of club recruiting, membership and collective action is afforded through the friends feature and user profile information, several high-ranking users have stated on their profiles that they will not use these features. These and other users disable feedback notifications, ignore friend requests, join no clubs and flag no content. Though the actions of individuals who opt out may be less measurable, they are no less important to an overall understanding of Answerbag as a self-aware community.

6. Conclusion

The results of this study suggest that both individual users and the Answerbag community as a whole demonstrate aspects of self-awareness. Evidence includes the increasing number of reflective, social questions about Answerbag and its users, open debates about normative behavior and the spontaneous formation of clubs around shared ideas of what the community should be. Though some of the effects of a self-aware community include patterns of conflict and factionalism, this may be seen as evidence of commitment to the community, part of the healthy debate that takes place within any society, toward the ultimate goal of continually defining itself, questioning itself, and evolving.

7. References

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