Incentives in the Wild: Leveraging Virtual Currency to Sustain Online Community

ABSTRACT

The importance of incentive mechanisms has long been recognized in sustaining online communities. However, many existing community systems have rigid system-imposed incentive mechanisms that preclude user appropriations of the incentives. In this paper, we draw upon recent investigations of the role of virtual currency (VC), a form of incentive, in a vibrant online community to highlight emergent practices that were enabled, facilitated and manifested through exchanges of virtual currency among users. Our study shows evidence that these user appropriations of VC help sustain the community and fulfill users' broader needs on these systems.

Author Keywords

Incentive, virtual currency, online community, Chinese.

ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

INTRODUCTION

Virtual economy is more than a fad for the Chinese. According to a recent report by the China Internet Network Information Center (CNNIC), 76.5% of the 55.5 million Chinese online gamers spent money on virtual items and game accounts, and the market of virtual items is valued about 10-13 billion CNY (about 1.5 billion USD). A central piece of this virtual economy jigsaw is virtual currency. Virtual currency schemes are sprouting like bamboo shoots after a spring rain in the Chinese Internet space. Online services from web portals (e.g., sina.com) to search engines (e.g., baidu.com), from sports news (e.g., titan24.com) to online games (e.g., 9you.com), from online forums (e.g., mitbbs.com) to online shopping sites (e.g., zuoz100.com), all have their own virtual currencies.

Although perhaps most developed at present in Chinese contexts, large-scale virtual money systems may soon feature in Western enterprises as well. For example, the largest US social networking service Facebook is testing a virtual currency system [1]. Potentially, many millions of people worldwide could use this system. We assert that virtual monetary transactions function in these online communities not only as a convenient means of micropayment (for their fee-based services), but also as an effective mechanism to engage their users and to foster the online communities. We will present early evidence from a popular Chinese online forum, MITBBS.

There are several threads of related work. One thread of work studies incentive mechanisms for encouraging participation. Farzan et al. [4] tested a static point-based incentive mechanism in IBM's internal SNS service Beehive and found a short-lived effect of the incentives. Cheng and Vassileva [2] demonstrated the positive effects of an incentive mechanism that adapts the rewards to both users' reputation and the current needs of the community in an online learning system. Another thread of work examines the answer quality in community Q&A sites and their underlying incentive mechanisms. Harper et al. [5] found that fee-based Google Answers service typically provides higher-quality answers than its free counterparts (e.g., Yahoo! Answers). The third thread of work applies market mechanisms to help solve communication problems, e.g., spam. Hsieh et al. [7] showed that market mechanisms can be used to improve synchronous communication (e.g., instant messaging). However, market mechanisms are not necessarily beneficial to online communities. More recently, in the context of a community Q&A system, Hsieh and Counts [6] showed that while market mechanisms can improve content quality by screening out less serious questions and answers, they may also reduce social interactions and thus users' sense of community.

In our work, we investigated the culture, policies and practices of MB, a virtual currency and form of incentive, in MITBBS. Unlike many system-imposed incentive mechanisms that preclude user appropriations of the incentives, MITBBS supports direct exchanges of MBs among individual users, creating an interesting gift economy and enabling a wide range of "user-generated" rather than system-imposed incentive practices that are valuable in sustaining the online community.

MITBBS

MITBBS (a.k.a., Unknown Space) is a Bulletin Board System (BBS) started as bbs.mit.edu in 1996 by Liu Jia, who came from Mainland China to study at MIT. The site was originally a forum where Chinese students and families discussed various aspects of studying abroad. It has evolved into one the most popular sites for overseas Chinese and recognized to "help Chinese in US navigate life" [8]. The posts on the site are predominately in simplified Chinese, although some are in traditional Chinese and English. It moved from the mit.edu domain to its own domain mitbbs.com in 2002. The site now has over 100,000 registered users and over 200 topic boards. Topics range from China News to job hunting, from investment to medicine, from soccer to California. Although now the site is mostly used from its web-based interface via HTTP, users can still visit the system via TELNET. All posts on the site are publicly visible but only registered users can add content by posting or replying to a post.

In terms of its admin structure, MITBSS has site admins who make site-wide polices and board admins who make board-specific rules for their respective topic boards. These board admins are usually self-nominated and then selected by the site admins. The site admins are people who run the business of the site, while board admins are just regular users albeit with certain privileges on their boards.

MB

MITBBS has two virtual currencies – the old MB and the new MB. MB stands for MITBBS *bi* ("coin"). It is also called *wei bi* ("fake coin") or *bao zi* ("bun"), somewhat analogously to the English colloquialism "dough" for cash. There is no official channel to exchange MBs to real currencies (e.g., US dollars) or vice versa. MBs can only be earned in the system (either as system incentives or gift from other users). The old MB can be used for gifting and betting (e.g., on sports games) on the site. When the site unveiled its MShow service (avatars) in late 2007, the new MB was introduced with the intent to replace the old MB. In addition to the old usages, the new MB can be used to buy virtual item for decorating users' avatars. While MBs are associated with every registered user's account, anyone on the web can see the amount of MBs that a user has. However, traces of MB transfer are not public. For the rest of the paper, we will focus on the new MB unless specify otherwise.

We seek to understand (1) the practices around MBs, particularly the transfer of MBs among users for whatever reasons, and (2) how these practices impact the online community.

METHODOLOGY

We have been following up MITBBS since the advent of its new MB for about 2 years. As an exploratory study, we analyze the posts that have explicitly mentioned MB in their content. This is akin to a diary study in that posts by users were treated as their self-reported experiences.

The content analysis began by searching for 伪币 (wei bi or "fake coins") and 包子 (bao zi or "bun") using the site's search function. This yielded a total of 3155 such posts which were subsequently analyzed according to the "Grounded Theory" methodology, i.e., summarized and categorized post-hoc into a list of key themes.

EARNING MB

There are a number of ways to earn MBs: (1) When a user contributes a post on a board, the system gives the user as well as the board 0.1 MB, respectively. There are upper limits in terms of the number of MBs can be earned per day via this means: 10 MBs for a user ID and 100 MBs for a board. (2) If the contributed post is of high quality and thus marked by the board admin, the user/author will get 10 MBs per marked post. In this context, the practice of board admin marking a post and giving its author 10 MBs is called *fa bao zi*. ("to offer a bun"). By extension, *fa bao zi* has come to mean offering MBs in general. (3) Board admins are compensated for their work in MBs. (4) Winners of the weekly fashion competitions in MShow get 50 MBs (big award) or 20 MBs (nomination award). (5) When a user contributes business information to the site's Yellow Page, the system awards the user 10 MBs when the information is authorized. Unlike board postings, there is no daily limit to the number of MBs earned via this means. (The site also claims that this is the fastest way to earn MBs). (6) Finally, users who participate in events hosted by individual boards are awarded MBs. The exact incentive rules are determined by the particular board admins. For example, the fashion board encourages users to post photos of themselves by offering 10MBs per post. This practice of posting photos of oneself that potentially reveals one's true identity is called *luo ben*, literally, "nude run".

In our analysis, we also discovered that the MB-related policies (such as when to offer MBs, the amount of MBs) are determined via a fairly open process. Site-wide MB rules were initially prepared by site admins, then they polled users for their opinion on these policies and integrated users' suggestions into the working policies. The derivation of board-specific MB policies follows a similar process. In fact, many changes implemented in the new MB system were proposed by ordinary users.

USER-TO-USER MB TRANSFERS

Before the introduction of the new MB, users who wanted to transfer MBs had to use board admins as intermediaries. Users would transfer MBs to a topic board, and then the board admin would transfer the MBs on to designated recipient(s). The new system not only allows users to directly transfer MBs among themselves, it actually prohibits board admins from transferring MBs to individual users. In the new scheme, board admins can only give MBs to users indirectly through marking posts on the board.

It is important to differentiate two types of MB transfers: one type is where the recipients of the MBs are unknown when the post is published while the other the recipients are

known. We call the former "generalized transfer" and the latter "specific transfer". In a generalized transfer, any registered user can reply to a post and the author(s) of the post can transfer MBs to the replier based on her user IDs.

WHY USERS TRANSFER MB

Material Needs

Users often use MBs to encourage replies to their requests for resources and services. In the titles of their posts, they usually mention MBs. Examples range from asking questions about visa applications to soliciting shopping coupons, from asking people to sing a certain song on the music board to finding out someone's true identity (*ren rou sou shuo,* "flesh search"). These requests usually serve practical and functional needs of the requesters.

Emotional Displays

It is also a common practice for users to transfer MBs to convey their emotions. Examples include showing sympathy (e.g., to fellow snowboarding fans who got stuck in airports for days because of bad weather), appreciation (e.g., to people who provided an electronic Chinese manual for a digital camera), apology (e.g., for offending people on the board), and happiness (e.g., for celebrating Chinese New Year).

Ren Pin (RP)

People often ask the community for blessings – when their parents are about to have visa interviews, or they have job interviews or green card applications. They may use MBs to attract and thank the repliers. This practice also relates to an interesting notion of *Ren Pin* (RP, "moral quality"). It is believed that if someone has good RP, she will have good luck. Posts that provide useful information or give away MBs are sometimes referred as "RP posts" – because they would improve the authors' RP and bring them good luck.

Attracting Attention

It is not surprising that among the some 200 topic boards on the site, some boards have high traffic (frequent new posts and replies) while others are unpopular. As a user ID has a MB account, a topic board also has a MB account which is indirectly managed by the board admins. Any registered user can transfer MBs to a board account, but only the board admins can indirectly transfer MBs out of the board account by marking posts. Sometimes board admins publish and mark their own *bao zi posts* (posts that give away MBs) just to attract more visitors to their board or to acknowledge sudden surge of visits on their boards.

MB for Gaming

Since the MShow service has system support for second-handed virtual item market, users can freely sell and buy used virtual items for their avatars using the MBs. We also witnessed that MBs were used as incentives in other games on the site such as the Killer Game (a.k.a., the Werewolf game). One post also showed the authors used MBs in playing Mahjong, a popular game originated in China:

> "We invited friends to play Mahjong at home during the weekend…we felt that only playing chips is not exciting enough, but we were not sure if playing cash is legal or not. A friend suggested using MITBBS MBs…After several hours of playing, everyone is still stimulated. [Using MBs] makes the game much more exciting."

Borrowing MB

Since only registered users can post on the site, when site readers want to leverage the knowledge of the community to ask questions they have to use their real-world friends' MITBBS user account. If their questions receive little attention (reply), they may borrow MBs from their friends to draw community's attention. Since users can transfer MBs directly without explicitly mentioning on the posts of site, we did not find many posts that evidence the practice but believe it is indeed a common practice.

TENSIONS AND CONTROVERSIES OF MB PRACTICES

A number of tensions and controversies have arisen from practices involving MBs.

Bao Zi Posts on the Top 10 List

Bao zi posts are posts that give away MBs and usually mention that in their titles. On the front page of MITBBS, there is a list of top 10 posts (based on the number of replies to the original posts). Many users complaint that top 10 posts were no longer worth reading because many of them got replies because they were bao zi posts. Most of the replies are as simple as "re", serving as a placeholder for the authors to identify MB recipients. These replies are clearly not informative at all, and can be seen as a waste of time for the site readers.

Gaming MB

Since MBs are useful on the site, users like to have them. Some users tried to game the system to gain MBs. One infamous practice is that the same user uses different identities (*ma jia,* "disguise") to get MBs. The MB policies are universally in favor of distributing MBs fairly and to as many users as possible. Sometimes, a bao zi post explicitly informs its readers how many MBs are available for give-away and implies the number of users who can get the MBs, e.g., only the first 5 repliers can get the MBs. There are various strategies that users can apply to increase their chances of getting MBs. In fact, some users even sell these strategies marketed as "MB secretes" to other useres. One example is to use telnet rather than web-based (http) to connect to the site because users can reply posts quicker in telnet connections, thus increasing the odds of getting MBs.

DISCUSSION AND CONCLUSION

Our study found evidence of money encouraging participation and increasing the likelihood of getting high-quality answers, albeit they are virtual money. This to some

extent corroborates the existing literature of fee-based Q&A sites providing higher-quality answers than free Q&A sites. The virtual money is significantly different from some of the point-based incentive systems: (1) it has utilities on the site, i.e., it can be used to do something (as opposed to the points in [4], for instance, are solely indicator of status); and (2) it serves as a unit of exchange (in comparison with the points in Yahoo! Answers, which cannot be exchanged among users). Therefore, we believe that the virtual money can be more effective incentives than these points.

However, virtual money is not always what users want. We found cases where providers of high-quality answers refused to take the MBs offered by the question asker(s). Their contributions to the site can be seen as earning RP and as a form of altruism. This finding is line with existing literature on the hybrid model of economic and social motivators of online contribution (e.g., Rafaeli and Raban found that non-monetary incentives such as comments accounted for some variance in participation on Google Answers [9]). Taking our finding and these existing literature together suggests that the design of incentive mechanism should be a mixing of market mechanisms and non-market mechanisms to encourage various factors of community contribution.

The idea of exchange is of central interest of this paper. Bell [3] distinguished commodity transactions and gift exchanges. These traditional market-based incentive mechanisms (such as the one in mimir [6]) are built upon the idea of commodity economy which is based on the assumption of rational human behavior and is driven by price. They were so carefully designed and controlled in the system so as to promote participation and prevent from gaming and misuse of the system. To varying degrees, they perform reasonably well in these regards. However, accuracy and efficiency are not the only metrics that matter in online community. Prior work has shown market mechanisms can reduce the sense of community, another critical aspect of these systems.

In contrast, the MB system in our study can be seen to promote gift economy which is driven by social relations. One prominent example we focus in this paper is the fact that unlike these traditional incentive designs, the MB system supports direct exchanges of incentives among users. Besides the material needs that arguably have been nicely supported by traditional incentive designs (e.g., commodity-based market mechanisms), this system support of direct user-user incentive exchange enables and facilitates user practices that create an interesting gift economy and fit their broader needs online community. Our study reveals evidence that these user-generated practices help sustain and enrich the community and adds to its appeals by supporting emotional needs (i.e., not always rational) and community culture like RP.

There is a tradeoff between the rigor of system control and the room for user empowerment and creativity. As we have seen in the Web 2.0 movement, user-generated content has revolutionized the Internet, creating many engaging and sticky user experience. We would argue that in contexts where the consequences of gaming or cheating the system are not so detrimental (esp. no real money is at stake), opening up the space for the users may be a better strategy.

In conclusion, we urge incentive and community designers to also consider the gift economy dimension of online community, to experiment with the idea of direct user incentive exchange, and to further open up the incentive space to its users.

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