Modding as Rating Behavior in Virtual Communities: The Case of Rooster Teeth Productions

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Abstract. Virtual communities that make use of social network site features blend known applications of virtual communities. These communities can be simultaneously social and commercial, organization sponsored and heavily relying on member interaction. We explore modding behavior that allows members to evaluate other members' contributions both with numerical value and qualitative rating. We show that approximately half of all members received mods on their comments, that the majority of mods given were positive, and that the amount of mods received for a comment was related to the position of the comment in the community website's thread. Contributing to the emerging literature of social network sites and virtual communities, we discuss implications for theory, future research and management.

Keywords: Virtual Communities, Communities of Consumption, Social Network Sites, Machinima.

1 Introduction

In a recent MIT Sloan Management Review article, Bernoff and Li [4] suggested "People are connecting with one another in increasing numbers, thanks to blogs, social networking sites like MySpace and countless communities across the Web. Some companies are learning to turn this growing groundswell to their advantage." With close to one billion[1] people connected to the Internet, firms not only face unprecedented opportunities but also considerable threats in such a digital economy. Numerous firms have set up "virtual communities," a term coined by Rheingold [19]. These communities are, mostly but not exclusively, online spaces in which customers and non-customers can interact with the firm and each other. Porter [17] defines virtual communities as an "aggregation of individuals or business partners who interact around a shared interest, where the interaction is at least partially supported and/or mediated by technology and guided by some protocols or norms." (see also Porter and Donthu [18]).

Virtual communities can have a positive impact on firm performance. According to one study, revenues have increased more than 50% for some firms [2] that have

[1] Source: http://www.comscore.com/press/release.asp?press=2698

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managed these communities well. In addition members of virtual communities remain twice as loyal to and buy almost twice as often from the sponsoring firm. Armstrong and Hagel [3] found that "companies that create strong online communities will command customer loyalty to a degree hitherto undreamed of and, consequently, will generate strong economic returns". In addition, virtual communities can shift bargaining power from suppliers to customers [13]; spread positive word-of-mouth [9]; help firms learn from customers [11]; increase website traffic [10]; raise entry barriers for competitors [10]; facilitate product development efforts [14]; and increase customer satisfaction and loyalty [21].

Recently, social network sites caught the attention of users, firms, and researchers [5]. Sometimes labeled "Web 2.0" coined by Tim O'Reilly[2], social network sites (SNS) emphasize member profiles and direct interaction and links between members, provide content ratings, and enable rating behavior [7, 12, 16]. "Modding" (derived from "moderation") refers to a type of trust rating that "allows members […] to evaluate other users' reviews with numerical ratings" [12]. Modding is a direct feedback mechanism between community members.

Both streams of research on virtual communities and social network sites belong to the field of computer-mediated communication. The combination of features within one online environment triggered new forms of behavior that warrant analysis. If virtual communities make use of SNS features the combination results in a new type of virtual community that cannot easily be understood by the frameworks used to classify virtual communities [17].

A virtual community that makes use of social software features may be organization sponsored, yet dominated by direct interaction among community members, hence, social and at the same time commercial. SNS features offer communication structures that make member-to-member communication easier and more frequent. Moderated communication makes members become more socially embedded in the virtual community [1, 7]. The availability of new communication structures that allow direct feedback on contributions calls for research exploring rating behavior. Specifically, modding of member comments by other members extends the communication options usually associated with virtual communities and call for more research on mass communication in virtual communities [20]. Schoberth and colleagues [20] found, among other things, heterogeneity in community participants' activities. Scholars have also called for more quantitative research using behavioral data from virtual communities [6, 7]. Thus, we ask: how do members of a virtual community make use of modding?

2 Methodology

We conducted a large quantitative study on the virtual community of Rooster Teeth Productions, a Machinima Production company creating and publishing animated videos made in computer games. We present the sample case as well as data gathering and analysis in this section.

[2] For more details: http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html

2.1 Sample Case

Producing animated videos was previously restricted to media professionals because of the high cost of software packages. These restrictions led innovative users to produce animated shorts with computer games by using the underlying 3D render technology thus creating Machinima. Game engines were relatively cheap compared to traditional production tools. In addition, most of the in-game assets like characters and landscapes were already at hand, which reduced the overall production time for an animated movie significantly.

Rooster Teeth Productions is one of the most successful Machinima companies (von Krogh et al., 2009). They sell sponsorship subscriptions, merchandising, and DVDs and reach a large user community. The latter, in fact, was triggered early on when Rooster Teeth introduced an elaborate community platform offering SNS features:

> *"… well, I think a lot of it has to do with the fact that the community site that we have made … or at least at the time we made it … had features that weren't that present in other places, we were a little ahead of the curve at that time, and so there were a lot of cool features that people were interested in. This is like before MySpace really had taken off … So we've always tried to give it a little functionality, things they do in a community website they're interested in making … you know, interested in being a part of it. We tried to make the website almost like a game." Geoff Ramsey, Rooster Teeth Productions*

Rooster Teeth Productions was founded in 2003 by Burnie Burns, Matt Hullum, Geoff Ramsey, Jason Saldaña, and Gus Sorola in Austin, Texas. Their first and most widely known Machinima production was Red vs. Blue (RvB), a show featuring two teams of soldiers in the game Halo who are stationed in an isolated canyon where their sole purpose is to fight each other. The popularity of the show that first aired April 1st, 2003 profited from the humorous dialogues between the different characters. While the comedy was first aimed at other gamers, a broad audience swiftly appreciated RvB. To date, Rooster Teeth has released five seasons of RvB 'The Blood Gulch Chronicles,' and one season of RvB 'Reconstruction' comprising 20 to 25 episodes each as well as several spin-off mini-series. Over the years, shooting the movies has advanced from the game Halo 1 on the xBox to the latest release Halo 3 running on xBox 360 with overwhelming new possibilities in graphics and artistic composition. In addition, most of their merchandising articles were related to RvB, which remained the flagship show. Apart from RvB, Rooster Teeth produced several other shows including 'The Strangerhood', 'P.A.N.I.C.S.', or '1-800-Magic', using different game engines to shoot the films.

Each series had its own website on which the videos were shown, important announcements from Rooster Teeth staff members published, and where fans discussed topics around the show. The discussion took place where the videos were viewed – especially while viewers waited for the download to finish or directly after watching videos online. Users did not have to actively go to a website to express their thoughts about the product as is the case with most websites of communities of consumption.

Due to a steadily growing fan base, over the last four years the segment of the RvB community actively contributing to discussions grew to 42,000 members who posted

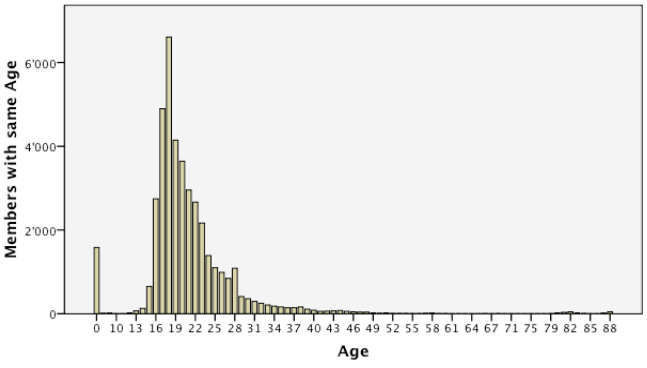

Fig. 1. Age Distribution of Members Commenting on Red vs. Blue

more than 400,000 comments on 165 episodes. Members could choose their level of engagement. They could be mere "consumers" who just watched the videos and/or bought merchandising products without interacting, or they could interact with other community members. The Rooster Teeth community cannot be neatly classified as either VC or SNS since different users engaged differently.

With 16% of all members, the 18 year olds represented the largest group (see figure 1). The average age of members was 21 years with a standard deviation of eight years. The age distribution was biased and positively skewed by the fact that members who didn't enter any age were listed as zero, and that few members who apparently entered the maximum age of 88 years. 93% of the members were under 30 and the bulk was either in high school or college-age.

Tracing the amount of members over four years, we found that the community had been growing at different speeds, but steadily in volume in a nearly linear fashion (r square= 0.95). There were four visible gaps in signups, which were located in the first two years of its existence with the longest gap lasting for two weeks (see figure 2).

The amount of comments per episode varied from a minimum of 58 to a maximum of more than 28,000 with an average of 2,400 comments per video. Five different sections could be identified with a strong cyclicity given that the amount of comments increased notably during seasons: Section 1 represents the comments to Season 1 and 2 that were aired on a former version of the Rooster Teeth community website. Those comments were not migrated to the new and more elaborate software

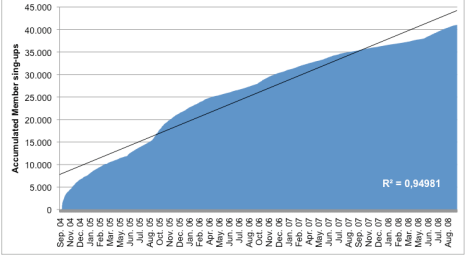

Fig. 2. Accumulated Daily Sign-ups of Members over the last four Years

infrastructure and therefore the amount of comments was low in section 1. Section 2 followed the launch of the new website before Season 3 leading to a steep increase in comments eventually coming to a slowdown after the end of the season. Section 3 was the most commented section ever covering Season 4. Half of the total comments-population was found in this section. This finding does not imply that all comments were made during Season 4 since it was possible to comment on archived videos. Section 4 and 5 covering Season 5 and the start of RvB 'Reconstruction' respectively contain again relatively little commented products.

The basic units of analysis were the RvB-related comments made by members and the mod-points associated with the comments. These were displayed chronologically below the corresponding video similar to YouTube with the difference that the comments in our case were ordered by ascending post date (i.e. the oldest post was displayed first). All comments and the associated mod-points were publicly accessible. In order to leave a comment one had to be signed in as community member. Member accounts were free of charge and did not have to be activated by a moderator or an administrator. Hence, members were able to sign up at any time and start posting.

Comment modding is the act of rating another member's comment(s). Synonyms are 'rating', 'giving mod-points' or simply 'modding'. In the Rooster Teeth community each modding of a comment consists of a combination of two values: a numerical value and a qualitative rating. The numerical value is either '+1' or '-1'. Each numerical value has to be combined with one of four qualitative ratings from which users can choose in a drop down menu. The four qualitative ratings corresponding to '+1' are 'Cool, Ditto, Funny and Zing![3]'. The four qualitative ratings corresponding to '-1' are 'WTF, Lame, Flamebait[4] and Noob[5]'. Mod points could only be given once per user and per comment. A user who has one account can mod each comment by another user only once. The mod is then publicly displayed next to the comment.

2.2 Data Collection and Analysis

For the purpose of the quantitative data analysis, we built up a database dedicated to the case under study. All available data from the Rooster Teeth RvB website concerning the episodes, the members, and the comments was automatically fetched during a three-day period from September 20th to September 22nd, 2008 and transferred to a local MySQL database for further analysis. To be granted full access to all the data, we obtained a sponsorship account. After screening and evaluating the data, we discovered some

[3] Three possible definitions for our purpose: 1) New term for "owned", said after saying something witty to someone in an insulting manner. 2) If someone makes an absolutely awful joke, or says something completely random or pointless. One member of the group may "zing" them. 3) A noise made when a person, place, or thing is discriminated against in a humorous manner. Source: www.urbandictionary.com

[4] A message posted to a public Internet discussion group, such as a forum, newsgroup or mailing list, with the intent of provoking an angry response (a "flame") or argument over a topic the troll often has no real interest in. Source: www.wikipedia.org

[5] Short for "Newbie". A slang term for a newcomer to online gaming or an Internet activity. Source: www.wikipedia.org

missing data sets that had been left out due to server maintenance by Rooster Teeth. For this, we obtained the missing data sets on October 2nd. All data entries in the local database indicate their fetch time stamp to check for possible inconsistency. We rebuilt the relational database structure of the original website using a separate table for episodes, members, and comments which were linked by their dataset identification number 'id' that remained the same as the online PHP web queries.

We fetched a total of 42,771 member accounts and 483,272 comments with their corresponding information. Out of all 737,000 registered Rooster Teeth community members[6], only those who at least commented once on a video of RvB were considered. Cleaning the fetched data sets from invalid information (either comments which link to a NULL member id or comments which link to empty member profiles) left us with 406,173 comments and 41,016 user profiles (see Table 1).

SPSS, Excel and the phpMyAdmin interface of the local server were used for the quantitative data analysis.

3 Results

Almost half of all members posted at least one comment, which has been modded, but only 15% of all comments were modded (see Table 1). One possible explanation could be information overload [7]. Members cannot browse the overwhelming amounts of comments that are posted. Observing modding behavior in more detail, we find that 60% of the modded comments obtained positive values (cumulated mod rating > 0), 36% obtained negative values (cumulated mod rating < 0), and for 4% of the comments the mods evened out (cumulated mod rating = 0). The fact that 60% of all comments carried a positive rating, with "Cool" being the predominant rating class, showed that members generally tended to give friendly mods.

Table 1. General Statistics for Modding Behavior in the Rooster Teeth Online Community

	Community Members		Posted Comments		Description
Total in Data Sample	**41.016**	**100,0%**	**406.173**	**100,0%**	**User-based and RT-members**
un-modded	21.426	52,2%	346.594	85,3%	Comments that were never modded
modded	19.590	47,8%	59.579	14,7%	Comments that were modded at least once
Total modded	**19.590**	**100,0%**	**59.579**	**100,0%**	
In sum positively rated	14.330	73,1%	35.363	59,4%	All comments with rating >0
In sum negatively rated	9.491	48,4%	21.638	36,3%	All comments with rating <0
In sum 0-rated	1.871	9,6%	2.578	4,3%	All comments with rating 0
Zing! (+1)	2.110	10,8%	3.076	5,2%	All comments with rating "Zing!"
Cool (+1)	6.308	32,2%	13.053	21,9%	All comments with rating "Cool"
Ditto (+1)	8.080	41,2%	12.832	21,5%	All comments with rating "Ditto"
Funny (+1)	4.743	24,2%	8.365	14,0%	All comments with rating "Funny"
WTF (-1)	3.301	16,9%	4.952	8,3%	All comments with rating "WTF"
Lame (-1)	3.850	19,7%	5.956	10,0%	All comments with rating "Lame"
Flamebait (-1)	2.803	14,3%	4.812	8,1%	All comments with rating "Flamebait"
Noob (-1)	4.075	20,8%	6.532	11,0%	All comments with rating "Noob"

[6] http://rvb.roosterteeth.com/members/stats/

Next, casual observation suggested that modding behavior centered around early comments. We analyzed the attention different comments received based on their position in the comments thread (see Figure 3). This position corresponded to the time the comment had been posted in ascending order i.e. the comment that was posted first is at position 1, second at position 2, and so forth. Post numbers are displayed on the x-coordinate. For the y-coordinate we defined and calculated a ranking variable. We summed [0 to 36,921] the absolute values [0 to 2,920] of all mod points given to comments which share the same position (post number) [1 to 32,780][7] and divided this value by the amount of modded comments [1 to 165][8] per position. We thus calculated the average mod points per comment position. In effect, we used the absolute mod value for a better representation of the attention a comment received, than the net value.

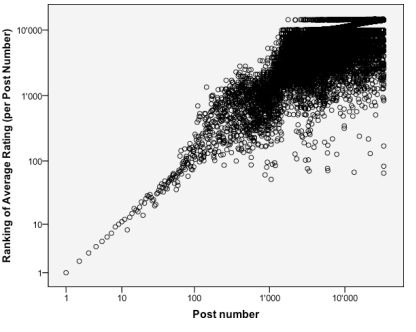

Fig. 3. Relationship between the order in which comments were posted (ascending) and the rank based on the average (absolute) mod value the respective comments received (ascending; average to rank inversely proportional): both scales were logged

We then ordered this quotient by descending value, i.e. starting with the highest value in order to receive a non-scaled ranking. For example, the data point at y=1 is calculated as follows: We considered all comments with post number 1. Since all 165 videos were commented at least once, 165 comments resulted. Some of these comments appeared to have invalid data base entries on the website. After pruning those, we were left with 147 valid comments. Out of these 147 comments we only examined those that were modded. In post number 1, all 147 were modded. We then summarized 147 absolute mod values, and divided the sum by 147, resulting in 36,921/147= 251. Repeating this procedure for all comments that were posted second (position 2) we get 107 respectively. Next, we ordered the quotients by descending value and displayed them as ranking. Thus, the y-axis represents the 'attention' or the valuation (negative or positive) members accorded a comment where 1 is the top rank with the highest attention.

[7] Even though a maximum of 28,000 comments per video were collected, post numbers in excess of this are possible since not all posted comments were considered due to validity checks (see Methodology section for further information).

[8] The maximum amount of 165 videos that could be commented on limited this number.

The results show that the first comments on each video received on average more (absolute) mod points than the respective subsequent comments. This holds true to a certain comment position from which on the data points become scattered. A threshold seems to appear around post number 50. The relationship between the post number of a comment, that is its position, and the mod value it received on average was positive and statistically significant ($beta(14665) = 0.578$; $p \leq 0.01$).

4 Discussion

This exploratory study of modding behavior in a virtual community revealed three findings that open up for future research. First, just under half of the community members received mods on their contributions, while the other half did not received mods. Looking at the entire volume of comments, only 15% were modded. Second, the community studied leaned towards 'positive modding', with 60% of all mods being positive. Third, the time and location of a comment mattered strongly for the likelihood that it would be modded. Comments that appeared early after the release of a new product and appeared on the first two pages of comments, received disproportionately high amounts of mod-points. After approximately 50 contributions, the direct link between the position and the rank of mod-points weakened.

These findings warrant further research on virtual communities with SNS features in three areas: individual behavior, collective behavior, and community structures. First, roughly half of the community members never receive mods on their comments. The behavior does not seem to catch on throughout the member base. The extension to mass communication in virtual communities provided by modding seems to be used unevenly. Hence our results extend the findings of Schoberth and colleagues [20] on heterogeneous communication behavior in online communities. Future research should analyze the factors that explain this behavior. Is modding considered to be costly, either in giving or in receiving? Is modding contested? Do member demographics explain modding behavior? Further, how does modding impact on contributions? Do members who received negative mods learn or change their behavior? Do positive mods (or mods at all) induce participation?

Second, we observed a friendly community who distributed more positive than negative mods. This result may impact on community growth, the willingness of members to contribute, and ultimately, consumer behavior. The result could support the idea that mods express trust rather than distrust or disapproval [12]. What explains this bias? How does this finding compare to other communities' behavior? Can communities that lean towards offensive behavior be sustained? Also, researchers should conduct longitudinal studies of posting and modding behavior in order to identify changes in community behavior over time.

Third, comments that appeared early and high up in the (chronological) list of comments received disproportionately more mods than subsequent, less visible comments. A first interpretation suggests that community members may suffer from information overload and pay far less attention to later comments than to early comments. This finding raise doubts regarding the high expectations by some authors attached to modding and rating systems as quality signaling or filtering tools [8, 22]. Should the timing and position of a comment matter more than its quality in

predicting the number of mods received, the modding system may be of little use to managers, marketing experts, and users of virtual communities. However, this issue needs much more investigation in future studies. We observed that after a certain threshold the post number did not predict the number of aggregate mods received. This calls for a refined analysis across multiple contexts and communication structures. Is it important that the first page contains 30 comments? Does the chronological order matter or could it be reversed and produce the same pattern?

Managers of virtual communities and social network sites may take away three insights from our study. First, virtual communities gain significantly new characteristics by adopting features associated with social network sites. Managers may think of more effective ways of distinguishing communities, possibly based on posting or modding behavior by members. The case of Rooster Teeth Production provides evidence as to the successful combination of product feedback and social network site features. Community members comment on a firm's products when they are released. They evaluate each other's comments and make use of the social infrastructure provided. Second, the modding behavior confirmed the impression of a friendly community. While this is only a first, preliminary finding it shows that the option of modding other community members' contributions was being used in a 'productive and supportive manner'. In general social network site features could be meaningful extensions to existing virtual communities. Third, filtering valuable comments with the use of member-based modding tools may not be a simple matter. Our results show that only after about 50 comments the mods received started to deviate from the comment number as received chronologically. This may mean that after the first rush by people to make their comments visible, perhaps later mods may signal high-quality comments.

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