Framing Group Norms in Virtual Communities

Research-in-Progress

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ABSTRACT

Organizations have started to realize the economic value of virtual communities. Unfortunately, traditional management methods of control do not work on virtual communities. Often, group norms are the principal method of virtual community governance. However, it is not clear how group norms are formed in virtual communities, and how managers can shape norm evolution. This research in progress paper presents our initial analysis of norm formation in virtual communities. We use framing analysis on two virtual communities focused on recreational drug use to explain how managers of virtual communities construct, and community members interpret frames to develop group norms.

Keywords
Virtual communities, Group norms, Framing analysis

INTRODUCTION

Increasingly, virtual communities are playing significant roles in the world economy. Globally, the economic value for organizations adopting virtual communities as part of their corporate strategy is estimated at USD 1 trillion annually (Chui, Manyik, Bughin, Dobbs, Roxburgh, Sarrazin, Sands and Westergren 2012). Many organizations are increasingly turning to open source communities to help develop software (Ljungberg 2000; Sharma, Sugumaran and Rajagopalan 2002). Technology vendors, such as Dell, similarly promote expert communities to recommend and help support their products (Di Gangi and Wasko 2009). However, it is difficult for leaders of such virtual communities to directly exert formal control on their community members (Thompson 2005; Gallivan 2008). Instead, organizations must carefully cultivate desirable norms in such virtual communities to achieve desired behavior.

However, how organizations or virtual community leaders can cultivate such norms remains an unsolved problem. This research in progress paper attempts to develop theory on norm formation in virtual communities through a cross-case analysis of two virtual communities focused on the consumption of recreational drugs. The study of such non-traditional virtual communities better allows the study of norms, as many of their norms (e.g., positive attitudes towards recreational drug use) are unfamiliar. Thus, researchers carry fewer assumptions about such norms.

We examine norm formation in these sites using the lens of frame analysis (Benford and Snow 2000). Frame analysis is an ideal lens, as it explicitly explores how individuals are convinced to perform actions, in this case, adopt new norms. We present our preliminary findings, which show that norms can be successfully cultivated by group leaders by appealing to group members' credibility and salience frames.

Our paper proceeds as follows. The next section reviews the literature on virtual community governance and norm formation. It is highlighted that while much of the literature emphasizes the importance of norms on virtual community governance, how such norms can be developed remains unclear. We then discuss frame analysis, and how it can be used in studying virtual community governance. We follow with our research methodology detailing how we collected data and analyzed our two sites. We then present our preliminary findings and end with a brief discussion of our plans for further work.

VIRTUAL COMMUNITIES AND NORMS

Organizations are becoming increasingly reliant on virtual communities for critical tasks such as software development and generating goodwill (Bergquist and Ljungberg 2008). These communities are generally formed as open collectives of dispersed and often unacquainted individuals who share a common interest (Faraj, Jarvenpaa and Majchrzak 2011). Through virtual communities, organizations are able to connect with current and potential customers in novel ways and thus enhance their customer relationship management strategy (El Sawy and Bowles 1997; Williams and Cothrel 2000). They also allow organizations to share product information while collecting feedback and gaining new insights on customer behavior. These insights, in turn, inspire new product ideas and spur innovation within the organization (Ogawa and Piller 2006; Di Gangi, Wasko and Hooker 2010). Given that virtual communities carry a huge value potential, it then becomes important for organizations to manage these communities efficiently while at the same time sustaining the motivations and aspirations of the contributors.

The different activities that take place in virtual communities such as knowledge sharing (Wasko and Faraj 2005; Chiu, Hsu and Wang 2006), knowledge construction through collaboration (Ma and Agarwal 2007; Kudaravalli and Faraj 2008) or just knowledge consumption are social processes. Studies have found that generating a strong sense of social identity among members of a virtual community has a positive impact on their contribution to the community (Koh, Kim, Butler and Bock 2007). Such social processes are usually self-governed with the help of group norms that emerge from within the community. (Ouchi 1980; Kirsch 1997). However, there is evidence to suggest that leaders or managers of such communities also have an influence in shaping group norms. Leaders can facilitate group-based control mechanisms or norms by encouraging collegial relations and enhancing the shared understanding of tasks and goals (Majchrzak, Malhotra and John 2005; Kirsch, Ko and Haney 2010). Accordingly, community leaders can help achieve organizational objectives by reinforcing group norms and motivating people to comply with them. Group norms can facilitate achieving organizational goals, especially for IT & software development projects (Persson, Mathiassen and Aaen 2011; Chua, Lim, Soh and Sia 2012). However, how group norms in virtual communities are formed is unclear as most research on norm formation has been conducted in the context of real-world management hierarchies (Feldman 1984; Raver, Ehrhart and Chadwick 2012) rather than on virtual communities.

Group norms are defined as informal controls that help regulate behavior in a group, especially when a group task is vague or uncertain (Sherif 1935; Feldman 1984). Group norms are recognized as the least visible and yet most powerful form of control over human behavior (Bettenhausen and Murnighan 1985). Norms are informal as they are not written down and lack visible mechanisms to encourage compliance. Yet, there is a high level of conformity within members of a group with norms (Asch 1951), which provides a means to predict expected behavior. As a result, group norms have a significant impact on the overall group performance (Mayo 2003).

NORM FORMATION

Prior research on group norms indicates two main influences on the norm formation process. The first is group members' interpretive capacity, or how group members understand what is expected of them through events that happen in their environment or through their interaction with other group members (Bettenhausen et al. 1985; Opp 2001). Based on the extent to which a group member's own interpretation of a task matches with others in the group, the group member either implicitly refines his interpretation to form a consensus or pulls the group towards his interpretation of the task. The second influence is the expectations set by senior members, or leaders of the group. Norms that are explicitly set or projected through the expectations of the leader of the group tend to be complied with (Taggar and Ellis 2007). Also, norms set by leaders that espouse the central values of the group have a higher chance of being adopted (Feldman 1984). However, in virtual communities, there is little management interference in daily operations and the interpretations of the intra group interactions are usually constrained to the technical affordance of the virtual community itself. In such cases it is unclear how leaders or managers of virtual communities influence the process of norm formation. In this study, we use framing analysis (Snow and Benford 1988) as a lens to explain how leaders structure information in ways that appeal to the collective interpretation of the group for norms to form.

FRAME ANALYSIS

Frame analysis has been extensively used to analyze how people are convinced to take action based on the strength of specific perspectives or frames (Benford et al. 2000). Framing is an active and dynamic phenomenon of constructing or packaging messages to bring about a particular interpretation by its recipients (Benford et al. 2000). Framing has been used

in social movement research to study a diverse array of advocacy programs such as anti-smoking (Kim 2006), and nuclear disarmament campaigns (Snow et al. 1988). It has also been used in communication and media research to demonstrate how media frames public opinion through sponsored journalism & advertising (Gamson, Croteau, Hoynes and Sasson 1992; Ryan 1999; Scheufele 1999). Also, frames have been demonstrated to be useful in bringing about strategic changes such as investments or product changes in organizations with the advocacy of the various stakeholders (Kaplan 2008). In IS, framing has been used to explore motivating stakeholders in IS projects (Khoo, Chua and Robey 2011).

This paper uses two main ideas proposed by the framing literature: (1) The construction of frames by the proponents of the frame and (2) the interpretation of the frames by group members. The literature indicates that successful framing, which in our context is the forming of group norms, is linked to whether frames constructed by the proponents of the frame appeal to the interpretive abilities of its target audience. A frame resonates with its targeted audience when it aligns with the social, cultural and personal experiences that are held close by them (Snow and Benford 1992).

Frame Construction

Most framing research conceptualizes frame construction as comprising three core framing tasks – Diagnostic, Prognostic and Motivational (Benford et al. 2000). Diagnostic frames describe the core of the problem, often by identifying a source of causality and blame appropriation. For example, the diagnostic frame of the Occupy Wall Street (OWS) movement, which was centered on economic inequality, blamed the banking corporations for the global economic meltdown of 2008. Through a prognostic frame, the proponent articulates a solution or a strategy to overcome the problem presented in the diagnostic frame. For example, the prognostic frame for OWS was to apply higher tax rates for the wealthy as a means to neutralize economic disparities (Sachs 2010). Together these two tasks are categorized as 'consensus mobilization' as they provide a platform to allow the frame proponents and their target audience to develop a shared understanding of the issue (Klandermans 1984). Motivational framing is then an 'action mobilization' task where the constructed frame is intended to mobilize the target audience to employ the ideas proposed in the prognostic frame. For example, OWS activists appealed to the public to share their personal stories of how they were affected by the global economic meltdown through the social networks of the web, thereby forcing banks to respond to their claims.

Frame Interpretation

The effectiveness of a frame is based on whether the frame is interpreted by its target audience in ways intended by the frame's proponents (i.e., the 'resonance' of the frame) (Goffman 1974). There are two general influences on the frame's resonance: frame credibility and frame salience (Snow et al. 1988).

Frame Credibility

Frame credibility refers to the extent recipients truly believe in the content proffered in the frame. Frame credibility in turn is dependent on two factors: frame consistency and empirical credibility (Benford et al. 2000).

Frame consistency is defined as the congruency of the frame's articulation of its beliefs, claims and actions. The degree to which there is consistency between what an organization claims its beliefs are, and the representation of those beliefs in specific situations by the organization, will lead to a higher chance of the frame resonating with its recipients. For example, there was consistency between the student activists' claims for reforms through non-violence and their behavior at Tiananmen square that resulted in the mass mobilization of Chinese citizens during the Chinese democracy movement (Zuo and Benford 1995).

Empirical credibility on the other hand is a measure of how well the contents of the frame fit with events happening in the real world. For example, some frames that supported nuclear disarmament failed, in part, because the nuclear winter these frames portrayed was hypothetical; no one had ever experienced one (Snow et al. 1988). The idea here is not whether the proffered frames are factually valid or not but whether the events relevant to the frames are believed by recipients to be real (Gamson 1992).

Frame Salience

Frame salience is the extent to which the contents of the frame are important to its recipients. A frame can be credible in terms of its consistency or empirical validity but if it is not felt important by recipients then it fails to mobilize them (Snow,

Rochford, Worden and Benford 1986). Variations in frame salience are determined by two important sub factors: centrality of the frame and experiential commensurability (Benford et al. 2000). Centrality of the frame is determined by the degree to which the claims and beliefs of the frame have an impact on the daily lives of the frame's recipients. Hypothetically, the higher the centrality of the espoused beliefs the better is the probability of the adoption of the claims and actions of the frame. For example, people who feel that voting will not bring direct benefits to their lives are not going to be motivated by any election campaign. Experiential commensurability is the extent to which claims proposed in the frames represent the personal and everyday experiences of the target audience. For example, it is difficult to motivate people to install anti-virus software if they have not experienced the consequences of their personal computer being infected with a virus.

The above constructs of framing theory suggest a model of norm formation in virtual communities as seen below in Figure 1. We consider the leaders or managers of virtual communities to be the proponents of a frame and hence involved in the frame construction process. They are involved in developing the frame through the diagnostic, prognostic and motivational frame construction tasks. Whether a constructed frame successfully becomes a group norm is dependent on the collective interpretation of the frame by group members. Accordingly, the higher the credibility and salience of a frame, the greater is the chance the proposed frame is accepted as a group norm. The model guides our case analysis of formation of group norms in a virtual forum that discusses issues relating to the consumption of recreational drug use.
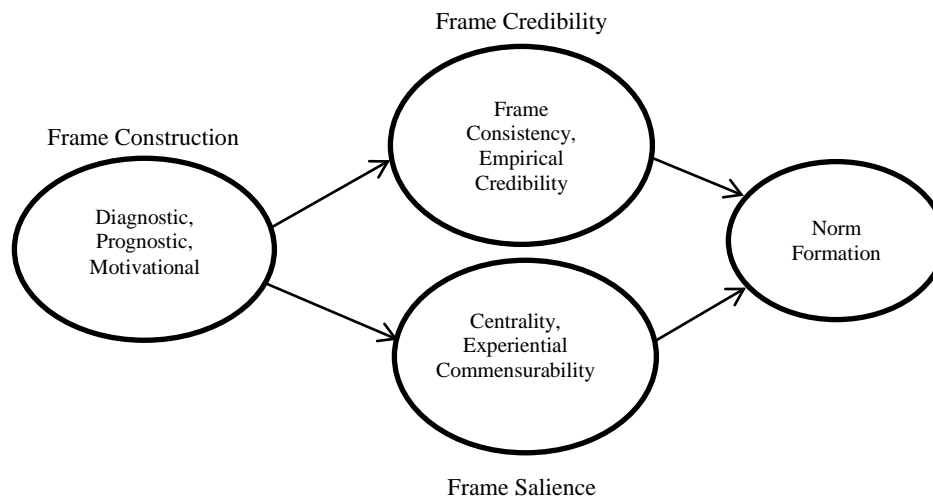

Figure 1. Norm formation model

METHODOLOGY

To study norm formation in virtual communities, we performed a cross-case analysis on two virtual communities that focused on recreational drug use. We used framing theory as our interpretive lens.

Case Selection

Recreational drug-based virtual communities were selected, because cultural practices and norms in these sites are foreign to the researchers. In contrast, as researchers are in the IS community, we are more familiar with more traditional communities such as open source software (Von Hippel 2001; Crowston, Li, Wei, Eseryel and Howison 2007) or computer games (Chua and Yeow 2010). Because researchers are comfortable with the norms in these more traditional communities, norms become invisible to researchers. Although, it is possible to identify norms in traditional virtual communities it is much harder to do so when compared to unorthodox communities. Moreover, by choosing a community researchers are unfamiliar with, we reduce the impact of researcher bias (Brewer 2000).

We selected case sites based on the following criteria. First, the site had to employ English as the medium of communication. Second, the case sites had to be in geographically separate locations to minimize bias that a single country

or region might have on the virtual community. What is considered a recreational or illegal drug differs by country. Third, the site had to be active for at least five years, which provided us with some evidence that the virtual community was "permanent" or at least would not disappear in the near future.

Table 1 presents summary statistics of our two case sites. It should be noted that while both sites are physically hosted in their respective countries, membership to the sites are not restricted by nationality.

	Case site 1	Case site 2
Based in	New Zealand	United Kingdom
Number of members	13270	30538
Years in operation	6	16

Table 1. Summary of the two case sites used

Data Analysis

Analysis proceeded in an iterative manner and went through several phases. In the first phase, we used open coding to generate a list of observed norms influenced by leaders (Strauss and Corbin 2007). To identify such norms, we looked for recurrent ideas that suggested advocacy of a specific behavior by the moderators of at least one case site. These advocated behaviors consequently became the open codes that resulted in the identification of norms. The list of norms identified thus far, and a brief description are presented in Table 2 below.

In the second phase, we collected more posts associated with each norm. This time, posts made by members of the group as responses to the moderators' posts were also collected.   We coded each post according to the framework in Figure 1 to identify the norm formation process. To map the frame construction process, we reviewed the posts made by moderators as belonging to the three core framing tasks. A post was associated with the diagnostic frame if moderators identified a problem or blamed specific entities as the reason for the problem. For example, a diagnostic frame would be in posts where moderators blamed governments for the prohibition on a particular drug while being biased towards alcohol and cigarettes which were equally dangerous stimulants. A post was associated with the prognostic frame if it seemed to suggest an idea or strategy to overcome the issue recognized in the diagnostic frame. Motivational frames were identified where it seemed that the moderators were suggesting a 'call for action' or anything similar for the members of the group to adopt the advocated position. For example, the use of the slogan "legalize, regulate & educate" was used to spread awareness of the different pro-legalization protest events. Consistent with framing theory, a post could be categorized as having a combination of diagnostic, prognostic, and motivational elements.

Credibility along with its sub constructs – frame consistency and empirical credibility were indirectly identified from the posts. We compared and verified the frames presented by the moderators in multiple instances or threads. Frame consistency was measured by the alignment between beliefs and actions of the moderators across different posts. For example, there is frame inconsistency if the moderators' frames seem to be advocating the pro-legalization protest events but moderators fail to participate in such events. Empirical credibility was identified by whether the post was backed by some form of evidence; often evidence came in the form of referenced supportive media or academic articles.

Salience and its sub-constructs were identified by reviewing the posts made by the group members in response to the posts made by the moderators advocating the proposed frames. Centrality was identified by whether or not the posts carried any indication of personal relevance to the frame while experiential commensurability was measured as any evidence of the frame's fit to group members' personal experiences.

Norm	Description
Selling, dealing or sourcing drugs from the community	Discussions on anything related to selling or dealing with drugs on the forum. This includes members asking for good sources to buy drugs.
Legalization of drugs	Discussions on making all drugs legal and easily accessible. Also relevant are discussions on

	ideas and consequences of legalizing drugs.
Drug dosage and mixing	Discussions on what is the right dose for responsibly using a drug and whether it is safe to mix it with other drugs.
Drug experience reports	Reports by people on their experience taking drugs along with tips on how to enhance experiences.
Harm minimization	Discussions on the need to spread awareness of practices to safely consume drugs without causing harm to themselves or to the society. Also discussing various harm minimization techniques for specific drugs.
Best practices for amateurs	Posts that are either targeted at amateur drug enthusiasts or posts in response to queries from amateurs about what drugs to avoid when just starting off.
Intravenous injection of drugs	Discussions on different routes for drug administration. Special focus on opinions on intravenous injection of drug and the consequences of this practice. Also relevant are discussions on harm reduction methods for addicts using this practice.
Safely passing drug tests	Posts related to best practices on things to do before taking a drug test to give oneself the best chance at passing it.
Knowledge collaboration	Posts about discussing the ingredients of particular drugs and their effect on the human body, the consequences of the effects etc., and These discussions also often involve the use of scientific and technical articles to support point of view.
Mission alignment	Discussion on topics that fall within the boundaries of the community's mission and the discouragement of those discussions that falls beyond the mission.

Table 2. List of identified norms across the two case sites

RESULTS

While our overall analysis is ongoing, we present our preliminary findings of how a specific norm (discussion on selling, dealing or sourcing drugs is discouraged), proposed by the leaders or moderators of both case sites, became an established norm within their communities.

Frame Construction

Diagnostic Frame. The moderators of both groups suggested that any posts related to the discussion of selling drugs should be discouraged. These included members pointing to sources such as referencing websites or sharing email addresses or phone numbers of dealers. Also, inquiries about sources to find drugs were also argued as not being in the best interest of the community. Moderators primarily based their thinking on two arguments. First, although their communities discuss recreational drug use, their actions are still constrained by the fact that most drugs around the world are still illegal.

> *"We (both users and mods of this site) are not above the law, and the concept of recreational drug use is illegal worldwide (even if individual nations haven't caught up with certain substances yet). In most nations we are allowed as individuals to openly disagree with our laws, but there are still no "free speech" laws defending blatant criminal activity."- Moderator (Aug 26, 2009)*

Second, they argue that because one of the main aims of their website is to change public opinion about recreational drug use in the society, any bad media coverage they might get due to drug selling and dealing would be harmful to their objectives.

> *"this is a very high profile website which has been featured on the British mainstream media and comes under the scrutiny of governments and law enforcement agencies worldwide. all sorts of "interesting" IP addresses have turned up in our log files over the years..."* – Moderator (Aug 26, 2009)

As a result of their communities being observed by various law enforcement agencies there was a possibility of members being incriminated for selling or dealing with drugs, sometimes through a process called entrapment, where law enforcement try to either inquire about or offer drugs and then trap the member.

Prognostic Frame. Given the grave problems associated with selling or dealing drugs on the community, the moderators discouraged all posts that were associated with this behavior. The moderators suggested that all such posts would be deleted and all members who either initiated or responded to such posts would be banned.

> *"Anyone caught offering any illegal or quasi legal substance will be banned instantly. You are not welcome here."* – Moderator (Aug 18, 2012)

Motivational Frame. The moderators tried to motivate members of their community by requesting them to report any activity of drug selling or dealing that they might have observed on their respective forums. They also encouraged and thanked members who did report any incidents.

> *"Keep up the good work everyone, we don't need these kind's of people bringing down our community like this."* – Moderator (Aug 18, 2012)

They also kept reminding their group members, especially new members, of the rules.

> *"just a friendly warning to any new users, Don't go around sending people off here, you have never met before, PM's [personal messages] asking about how to get drugs...If you keep sending messages, even if you are just desparate for drugs, its harassment, .if you are a cop or journalist trying to expose drug dealing, its entrapment."* – Moderator (Aug 25, 2010)

Frame Interpretation

Credibility
Frame Consistency. The moderators were found to be consistent in their claims and behavior regarding banning members who engaged in selling or dealing with drugs. Hence, frame consistency was established.

> *"Thanks for all the private messages reporting this idiot. I have removed all the PM's he sent, removed all his posts and banned him for life."* - Moderator

Empirical Credibility. Any posts about local media articles that mentioned anything about their community were highlighted. There was an instance when an article quoted a group member condemning an incident where a legal drug manufacturer was using unethical advertising as a means to raise money. Thus, the moderator tried to establish credibility to the claims about their community's public profile and the need to sustain it. The following quote from the media article was highlighted in the forum.

> *"People posting on t*****.co.nz - a local internet forum about drugs - were among those who condemned the product, with one saying it was "outrageous" and another slamming the marketing as "reckless""* – Local media article shared on the community (Dec 12, 2012)

Credibility was established among the members of the group as they congratulated the moderators for working hard to build a good profile for their community.

> *"Big ups for T****e getting its name out there for all the good reasons. This is a step in the right direction, I reckon partly due to the mods doing such a good job. Keep it up guys!" – Group member (Dec 12, 2012)*

Salience

Centrality. Users felt that the proposed framing was important to them. One reason was because they felt that selling drugs or enquiring about deals was not in the best interest of their community.

> *"i agree talking about drugs is one thing, selling them is another...." – Member (Aug 25, 2010)*

> *"yeah this needed to be done ... people who have nothing to do with pv coming on to sell drugs is ridikulas (alltho even any one from pv shouldn't do this .. i think the majority are wise enought to know that sellnig drugs is a bad idea)... theese people could of really brought it on top for the people running this place" – Member (Aug 26, 2009)*

Experiential Commensurability. The framing resonated well with the group members as some of them learnt about how undercover police were using entrapment techniques to incriminate drug users. It has to be noted that although some members have established that entrapment techniques are not really legitimate; members felt that the hassle of dealing with law enforcement was not worth it.

> *"apparently undercovers have been offering up illegal substances (presumably pills) at night clubs then busting those who hand over cash . A certain popular drum n bass location in Wellington was mentioned, however i'm sure if they do it at one they do it in one city / club they do it all over the show. So if some dodgy f****r offers you drugs in a nightclub, just say no!" – Member (May 26, 2009)*

Norm Formation. As the frame constructed by the moderators of the group about selling or dealing with drugs on the community was interpreted to be credible and salient by the members of the group, the advocated behavior was adopted and eventually became a norm. Members of the group were found to respond to drug requests in accordance to the established norm.

> *"im from london and i need to buy some H. If anyone knows where i can score some or if you have any contacts please let me know, thanks." - Member (Oct 10, 2012)*

In response,

> *"Why do people make these posts? Have you read the site rules? More than likely not....such foolishness." – Another member (Oct 10, 2012)*

DISCUSSION & FUTURE WORK

In alignment with our argument that leaders can cultivate norms in virtual communities, we presented a model of group norm formation using faming analysis. According to the model, leaders who construct behavioral frames that appeal to their group members both in terms of the credibility of the frames and the salience to the group members will be adopted and employed as group norms. The implication for leaders or managers of virtual communities is to have an understanding of things that will aid in enhancing the collective credibility and salience components of their community members and to tailor their frames accordingly. This understanding will aid as guiding principles on which virtual community leaders can, not only establish a set of expected behaviors but also nurture new group members to follow suit. Consistency in behavior and manifestation of credibility will eventually build a strong and long lasting community.

As this is still a research in progress paper, we plan to further develop our theory by testing the model for the other identified norms presented in table 2 presented above. As we map more empirical data, we will be sensitive to any patterns or themes that might emerge in the norm formation process between the two case sites. What would be interesting is to observe under what conditions and what point in time does the norm transition from the proponent of the norms i.e., the leader of the virtual community to the community member. This analysis will also involve comparing the percentage of posts between the leaders

of the community and the group members to understand the amount of effort that the leaders would need to put in for the norms to become accepted practice.

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