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The structural features and the deliberative quality of online discussions

WeiYu Zhang*
Communications and New Media
National University of Singapore
Singapore

Xiaoxia Cao
Annenberg School for Communication
University of Pennsylvania
PA, USA

Tran Minh Ngoc
Department of Statistics
National University of Singapore
Singapore

*Correspondences should be sent to WeiYu Zhang, Communications and New Media, National University of Singapore, 11 Computing Drive, Singapore 117589. Email: cnmzw@nus.edu.sg

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1. Introduction

Taking advantage of the Internet to discuss politics dates back to the formative days of cyberspace (Rogers and Mahlhotra, 2000). Political discussions are now evident in Usenet groups (Pfaffenberger, 1996 and Hill and Hughes, 1997), chat rooms (e.g., Weger and Askhus, 2003), Web-based message boards (e.g., Zhang, 2006), blogs (e.g., Trammell et al., 2006), social networking sites (Boyd, 2008), and many other online spaces. Different democratic theories have been applied to analyze the significance of these discussions. The radical model of democracy, for example, recognizes the value of online discussions in promoting antagonistic pluralism (Mouffe, 1999). In line with this model, scholars found that online political discussions can contribute to the range of opinions and the intensity of debate even though the discussions involve severe opinion conflicts and do not always appear to be civil and polite (Howard, 2006, Papacharissi, 2008 and Chadwick, 2009).

This paper follows the deliberative model of democracy because it provides a possible solution to the dilemma between mass participation and elitist dominance. To be specific, as modern democracies continuously expand their scope, the fear

of rule by the apathetic and uninformed mass becomes acute. However, relying on an elitist body to govern is not a good solution either because it contradicts the ideal of political inclusiveness and the decisions made by elites sometimes fall short of public support. For these reasons, the deliberative model of democracy is considered a better choice, since it proposes to engage ordinary citizens extensively in the political procedure (e.g., policy making) and, at the same time, attempts to enhance the quality of mass participation via a process of deliberation (Fishkin, 1991). Political deliberation—that is, rational and civil discussions of politics—among the public is desirable because it may produce quality decisions that enjoy popular support.

The rise of the Internet may herald new possibilities for the realization of the deliberative model of democracy. Unlike traditional media (e.g., print and broadcast media) that allow only unidirectional one-to-many communication, the Internet opens up the opportunities for low-cost point-to-point, point-to-multipoint and multipoint-to-multipoint interactive communication across time and geographic boundaries (Benkler, 2006, DiGennaro and Dutton, 2006, Rheingold, 1995, and Simone, 2010). Although some have questioned whether electronic text-based online interactions are suitable for fruitful political deliberation (Fishkin, 2000, Sunstein, 2001), studies have shown that people feel more comfortable to reveal their true opinions and discuss political disagreements

over the Internet than face-to-face (Rains, 2005, and Stromer-Galley, 2003). Online discussions are also much more egalitarian than face-to-face encounters because they prevent individuals from dominating the discussions and increase contributions from low-status participants (Rice, 1993, Walther, 1995, and Hillingshead, 1996). In addition, online encounters may facilitate the formulation of thoughts by requiring discussants to convert their inchoate ideas into text (Price, 2006). All these suggest that the Internet has the potential to bring people with diverse backgrounds and viewpoints together and to foster rational political debates among them.

Admittedly, the fact that the Internet has the potential to engage ordinary citizens in political discussions does not necessarily mean that political deliberation will occur automatically. Of the numerous vigorous contestations about politics on the Internet (Kelly, Fisher and Smith, 2005), not all meet the standards of deliberative democracy (e.g., Dahlberg, 2001 and Zhang, 2007). Hence, it is important to understand in what way the Internet may facilitate the realization of the deliberative model of democracy. Specifically, we are interested in why some online discussions meet those standards, while others fail to do so. According to Dahlberg (2001), the inconsistency can be attributed to either those who engage in the discussions or the ways in which discussions are organized. In line with this claim, Price and David (2004) found that personal characteristics of discussants

are important sources of variance in both the activeness of online discussions and the deliberative degree of opinions. Similarly, Adamic and Glance (2005) observed that the political leaning of bloggers may influence how likely they were to expose themselves to opposing opinions.

While previous studies focused on the profiles of discussants, this paper explores how the ways in which online discussions are organized may influence the quality of online discussions. To be specific, this study examines the relationships between the structural features of online discussion spaces and the deliberative quality of discussions. Two criteria used to assess the deliberative quality of online discussions are the number of reasons provided by discussants and the degree of mutual respect shown in the discussions. Two types of structural features of interest are (1) diversity, defined as the design elements of online discussion groups that encourage people with different opinions to engage in political discussions, and (2) moderation, referred to as the design elements that permit the moderating activities to happen. Using eight cases, the present study investigates the relationships between these two types of structural features of online spaces and the deliberative quality of online political discussions. Specifically, we examine the relationships via content analyzing discussion posts about the 2004 US presidential election. The posts were randomly selected from eight online discussion spaces during the last month of the election. The findings

suggest that diversity and moderation may have interacted with each other to shape discussion quality.

1.1. The principle of reason-giving

Most theorists of deliberative democracy agree that reason is central to deliberation. Gutmann and Thompson (1996, 3) specifies that the first and most important characteristics of deliberative democracy is “its ‘reason-giving’ requirement”. The principle of reason-giving, therefore, means that political decisions have to be made through a process of exchanging reasonable arguments (Steenbergen et al., 2003). However, not all discourses are qualified to be deliberative due to lack of public reasoning. Emotional expressions and arguments made in a private setting, for example, are not considered to be deliberative. Consequently, researchers treated the amount of reasons provided during public discussions as a direct indicator of deliberation (e.g., Price, Cappella, and Nir, 2002). Habermas uses “validity claims” (1984, 39) to refer to the kind of reasons he envisions for deliberative democracy. In order to qualify to be validity claims, the reasons provided need to meet four criteria: (1) they are intelligible; (2) they are true; (3) they are culturally and contextually appropriate; (4) they reflect genuine intentions of the speaker (Habermas, 1979, 58-59). This ideal concept of reason has been challenged as too restrictive (e.g., Fraser, 1992)

and more scholars (e.g., Wales, Cotterill, and Smith, 2010) become favorable towards an inclusive conceptualization of reason as providing any type of justifications, no matter whether they come from personal experience or abstract philosophies. This paper follows this more inclusive approach to define reason.

Online political discussions have been considered by theorists (e.g., Held 2007, 253) as possible means to realize the deliberative model of democracy that emphasizes reaching social cooperation among free and equal participants through the process of rational discussions (Farrelly, 2004). This is because the Internet lowers the costs of involvement in political debates, creates new mechanisms of organizing discussions, and opens up new channels of interactive communication (Benkler, 2006, DiGennaro and Dutton, 2006 and Rheingold, 1995). As a result, the Internet is described as having the potential to bring people with diverse backgrounds and viewpoints together and to foster rational political debates among them. Nonetheless, studies about whether online political discussions live up to the standards of deliberative democracy have not yet generated consistent findings. On the one hand, polarized opinions were found in Usenet groups (Wilhelm, 2000 and Davis, 1999), flaming in newsgroups (Fung and Kedl, 2000 and Mitra, 1997), and offensive verbal exchanges in online communities (Stivale, 1997). On the other hand, research has shown that incivility and impoliteness do not dominate online political discussions (Papacharissi, 2004

and Zhang, 2006) and that participants enjoy the diversity of the people and opinions they encounter online (Stromer-Galley, 2003).

It is thus misleading to say that the Internet, as a whole, is friendly or unfriendly to the principle of **reason-giving**. Both the structural features of online spaces (e.g., autonomy, rules of discourses, and types of management) and the characteristics of participants (e.g., reflexivity, ideal role-taking, and sincerity) can significantly affect the degree of rationality observed in online discussions (Dahlberg, 2001). Hence, this study attempts to identify the conditions under which rational discussions flourish.

1.2. The principle of mutual respect

Gutmann and Thompson (1996) introduced the concept of mutual respect into the deliberative model of democracy, arguing that mutual respect is a form of agreeing to the disagreed. Even though citizens fundamentally disagree on an issue after reasonable exchanges of opinions, they can still appreciate the moral positions of people with whom they disagree and continue to cooperate with them in future deliberations. Thus, mutual respect contributes to the sustainability of rational discussions among disagreeing citizens and is considered another important principle of deliberative democracy. However, it is not clear how mutual respect manifests itself in measurable ways. Gutmann and Thompson

(1996, 81) vaguely mentioned that the principle of mutual respect refers to “attitudes as manifested in public action.” Hence, measuring mutual respect remains elusive for empirical researchers.

Nevertheless, Papacharissi (2004) has taken the initiative to measure mutual respect. She used two constructs, civility and politeness, to represent different dimensions of mutual respect. Civility is defined as behaviors that enhance democratic conversations, whereas politeness mainly refers to interaction that flows smoothly. In her study, civility is operationalized as the absence of discursive actions that assign stereotypes and the absence of threats to others’ rights and/or democracy; on the other hand, politeness is operationalized as the absence of such rhetorical cues as name-calling or all-caps (indicating shouting when used online). Although Papacharissi questioned the necessity of politeness in heated discussions, measuring both civility and politeness should give us a good grasp of the degree of mutual respect in online discussions.

Studies examining online political discussions have observed instances of uncivil and impolite exchanges of opinions between discussion participants (Mitra, 1997), but such exchanges do not dominate online discussions (Papacharissi, 2004). Most participants are able to develop, maintain, and enforce norms of civility in online discussions, which helps to promote understanding and consensus building

(Hurrell, 2005). Again, rather than making a claim about whether the Internet in general is “good” or “bad” at promoting mutual respect in political discussions, we are interested in identifying conditions under which mutual respect exists.

2. Structural features of online discussion groups

To explore conditions under which rational and civil political discussions are more likely to flourish on the Internet, we focus on the structural features of online discussion spaces because these features can create a variety of conditions that are associated with the quality of online political discussions. As Hill and Hughes (1997, 5) pointed out, the Internet is “not really *a thing*” but rather a combination of various technologies that support different structures of online spaces. The structures of online interfaces, in turn, frame and organize online discussions (Jones and Rafaeli, 2000). However, emphasizing the importance of structural features of online spaces does not necessarily mean technological determinism (Wright and Street, 2007). Structural features are, first of all, products of the choices made by the Web site creator and the owner(s) of a space. Moreover, the uses and misuses of the space reinforce and/or challenge the ability of structural features to shape users’ activities. For example, hackers can enter a private space even though the space is supposed to be open to members only. Hence, we support the notion of mutual influence between technologies and human actions in shaping structural features by defining structural features as

design elements of online spaces (Papacharissi, 2009). The design elements are technologies chosen by human actors. The technologies only work to their supposed ends if users follow the rules of utilizing them. In this sense, structural features are simultaneously technology based and shaped by human beings. Two types of structural features examined here are diversity and moderation.

2.1. Diversity

Our focus on diversity and moderation is based on democratic theories and empirical observations. Beginning with diversity, theorists of deliberative democracy argue that deliberation should and must allow disagreeing participants to reason on various issues. Decisions generated from an open procedure that involves heterogeneous opinions have higher legitimacy than those generated from other mechanisms (Bohman, 1998). Moreover, empirical studies have shown that the frequency of disagreeing with others in everyday political discussions is positively related to political knowledge and tolerance (Mutz, 2006). Hence, opinion heterogeneity among discussion participants is not only a necessary precondition of deliberative discussions but also a predictor of desirable outcomes. Given that diversity, as a type of structural feature of online spaces, should be able to enhance opinion heterogeneity in online discussions by encouraging disagreeing people to participate in the discussions, we are interested in how diversity relates to the deliberative quality of online discussions.

In this paper, diversity¹ is defined as the design elements of online discussion groups that encourage unlike-minded participants to engage in political discussions. For examples, owners of discussion groups can utilize group titles (e.g., “Politically Incorrect Cafe” or “The Democrats Won!”) and explicitly stated group missions (e.g., “This forum is the home for all Republicans” or, “This forum is designed to advance various progressive causes by engaging people in vigorous discussions about these causes”) to encourage certain people to participate while driving away others. This raises the question of how diversity may shape the deliberative quality of online discussions by influencing the levels of opinion heterogeneity in the discussions. Given that the principle of **reason-giving** is one of the criteria used to evaluate the deliberative quality of political discussions, we first turn to the possible relationship between diversity and reasonable arguments.

Dahlberg (2007, 836) contended that homogenous groups including like-minded participants could contribute to a plurality of discourses by securing spaces for alternative or extreme opinions, and by making room for “intra-discursive contestation” in addition to “inter-discursive contestation.” His argument is

¹ A concept related to diversity is opinion heterogeneity and in order to differentiate diversity (as a type of structural feature) from its possible consequence (i.e., opinion heterogeneity), the term “diversity” is used exclusively to refer to the structural feature in the rest of this paper.

corroborated by research on subaltern public spheres (e.g., Fraser, 1992). Subaltern public spheres—different from the universal public sphere embraced by Habermas (1991)—only include sub-groups of social members whose opinions are often marginalized by dominant discourse due to their inferior positions in the socio-political power hierarchy (e.g., homosexuals, females, and racial minorities). Investigations into subaltern public spheres indicate that discussions with low levels of opinion heterogeneity among like-minded people do not exclude reasonable arguments. Rather, these people often engage in heated and rational discussions regarding the strategies that the subaltern publics should take to approach the dominant/mainstream public sphere (Felski, 1989 and Zhang, 2006).

However, there is also evidence that discussions with high levels of opinion heterogeneity among unlike-minded people can lead to reasonable exchanges of opinions under certain circumstances. For example, Price, Cappella, and Nir (2002) found that disagreements are central and critical in producing deliberative opinions because people are forced to consider counter reasons and motivated to accept better arguments. Taken together, current research does not show a clear relationship between opinion heterogeneity and reason-giving.

Beyond the impact of diversity on reasons, we are also interested in the relationship between diversity and mutual respect (another criterion used to assess

the deliberative quality of political discussions). Scheerhorn (1991, 1992) has pointed out that, with a greater need to be clear in presenting disagreement, the message becomes less polite. For instance, research on presidential debates has shown that challengers tend to be more aggressive than incumbents because they want to clarify how their positions differ from those of the incumbents (Dailey, Hinck and Hinck, 2008). Another factor that shapes the relationship between disagreement and politeness is participants' relational needs. If a participant desires to develop and/or maintain a positive relationship with others, then he or she will be polite when communicating the disagreement. Hence, the relationship between disagreement and mutual respect can be affected by two factors: the need to address the disagreement in a clear manner and/or the need to maintain a positive relationship with others. Given that diversity likely leads to disagreement among discussion participants and that it is unclear to what extent disagreeing discussants attempt to fulfill their needs of clear expressions of opinions and/or positive interpersonal relationships, the relationship between diversity and mutual respect is yet to be determined. This begs the question of how diversity may influence reasonable discussions by affecting the levels of opinion heterogeneity as well as mutual respect in online discussions.

RQ1: How does diversity relate to number of reasons provided by discussion participants and mutual respect in online political discussions?

2.2. Moderation

Besides the relationship between diversity and the deliberative quality of online political discussion, this study also explores how moderation (as a type of structural feature of online spaces) may be related to the deliberative quality of online political discussions. In this study, moderation² refers to the design elements of online discussion groups that allow moderating activities to occur. Therefore, the actual amount of moderating activities is the potential product of such elements.

Barber (1984) pointed out that a successful deliberation needs a facilitator, who should not participate in the deliberative discussions but be responsible for the order of fair discussions, open debates, and judicious outcomes. Similarly, Levine and colleagues (2005) included the presence of “a neutral and professional staff that helps participants work through a fair agenda” as one of the four defining features of a successful deliberative initiative. Empirical studies show that moderation plays a controversial role in deliberation because it allows different moderating activities to occur. Some studies examining the role of moderator in offline discussions found that groups with a moderator generate fuller

² To differentiate moderation (as a type of structural feature) and its potential outcome (i.e., moderating activities), we use “moderation” to refer exclusively to the structural feature under study in the rest of this paper.

participation, a higher level of justification, and more agreement than those without a moderator. However, other investigations indicated that the presence of moderators could have harmful effects on deliberations. For instance, they can suppress certain opinions (Karpowitz and Mansbridge, 2005), limit individual autonomy, and make the group vulnerable to outside interests (Levine et al., 2005).

When it comes to online discussions, the presence of a moderator also plays a significant role because it is important to various administrative and technical tasks ([Coleman and Gotze, 2001], Kearns et al., 2002 and Wilhelm, 2000). As Bregman (2000, 2) has reminded us,

The discourse benefits most from having multiple moderators—at least one technical moderator to provide technical support to both members and to troubleshoot the software package, but never participating in the discussion; and, another moderator whose role would be that of a discussion ‘leader’ (note the scare-quotes). The purpose of the ‘leader’ is not to lead in the traditional sense—it is not to set the agenda or guide discussion—but rather to organize the members and allow the members themselves to choose what they want to talk about and in what manner they see fit.

Based upon Bregman’s account, moderating activities, in the context of online

discussions, refer to the everyday maintenance and management of online spaces.

Research examining the effect of moderating activities on online political discussions has shown two-sided evidence. Some studies found that moderating activities are beneficial to online discussions. For instance, Wise and colleagues (2006) found that moderating activities could strengthen intention to participate in online discussions about public affairs among college students. Likewise, in a study examining Minnesota E-Democracy—a project that invited people to deliberate online about issues related to local politics—Dahlberg (2001) found that moderating activities stimulated reflexivity, fostered respectful listening, and achieved open and honest exchanges of opinions. To be specific, he argued that the observed high quality of the deliberation was accomplished through “the formalization of rules and guidelines, the careful management of the forum, (and) the development of self-ownership and self-moderation.” By contrast, other studies showed that inappropriate moderating activities might have negative effects on online discussions. For example, moderating activities without explicit justification can be counterproductive because it can create a “conspiratorial image of the moderator” in the context of online public consultations (Coleman et al., 2002, 17). Vague rules can also lead to suspicions of political censorship in government-run consultation forums (Wright, 2005). Hence, the current literature does not show clear evidence with respect to the role of moderating activities in

facilitating online deliberation. Given that moderation as a type of structural feature of online spaces can affect the actual amount of moderating activities in online discussions, it raises the question of how moderation may influence the deliberative quality of online discussions.

RQ2: How does moderation relate to number of reasons provided by discussion participants and mutual respect in online political discussions?

Finally, the relationship between moderation and the two indicators of the deliberative quality of online discussions—**reason-giving** and mutual respect—may be modified by the levels of diversity of discussion groups. In groups with higher levels of diversity, opinion conflicts may lead to more reasons but less mutual respect. If moderator(s) intervene inappropriately, such as by excluding certain opinions, moderating activities may suffocate reasonable arguments among disagreeing participants. Moreover, if moderator(s) fail to control impolite behaviors, personal attacks towards disagreeing others may be prevalent. However, in groups with lower levels of diversity, moderation may have different functions. If group members already agree on many issues, moderating activities can help to build trust among the members and promote group coherence. As a result, we may see mutual respect flourish in these groups; but the sense of harmony in the group may also make its members think there is no need to justify

their opinions because they are commonly shared by most of the members. Given that little is known about exactly how moderation influences the deliberative quality of online discussions in groups with different levels of diversity, we ask the following research question:

RQ3: Does the relationship between moderation and number of reasons or mutual respect vary depending upon the levels of diversity of an online discussion group?

3. Methods

This study addresses the relationships between the deliberative quality of online political discussions and the two types of structural features of online discussion groups—diversity and moderation, **based on eight cases**. Online discussion groups in this paper refer to grassroots discussion spaces run by ordinary citizens, such as Yahoo! Democrats_Won!. Threads are composed of multiple posts listed under the same title. For example, a thread called “General: candidates divided on health care” includes fifty posts listed under it. Posts are individual pieces of text.

3.1. Sampling procedure

Since the amount of political messages on the Internet is enormous, it was necessary to limit our analysis to political discussions on selected themes from

certain discussion groups within a specific time period. A presidential election is arguably one of the most important political events in the United States, and discussions on presidential elections usually concern a wide range of issues. Moreover, diversity, as a type of structural feature of online spaces, is relatively easy to operationalize in the context of a presidential election. It is possible to examine the extent to which a discussion group encourages participation from individuals with different political views (i.e., pro-Democratic and pro-Republican views). Hence, we focused our analysis on discussions about the 2004 US presidential election during the last month of the election campaign—from October 2, 2004, through November 2, 2004. The last month was selected because discussions on political issues were supposed to intensify in the month leading up to the election. The data were collected immediately after the 2004 election ended and the analyses were completed when the 2008 election was still underway. The main goal of this study was not to examine political discussions about a particular election, but to answer the theoretical questions of how structural features of online discussion groups relate to the deliberative quality of online discussions.

To select discussion groups, we limited our search to groups from yahoo.com, msn.com, and google.com because they were the most popular Web sites that provided the service of discussion groups in the United States—with google.com

ranked No.1 in popularity, yahoo.com No.2, and msn.com No. 7 (Alexa, 2008).³ To be clear, the Web sites ranked from No.3 to No.6 did not have the function that supported categorized and themed discussion groups. A full list of political groups (e.g., under the category of government and politics in the site of Yahoo! groups) from each site was obtained and scrutinized. Three criteria were then used for selecting **eight cases**. First, the group discussions had to be about politics in general rather than about specific topics (e.g., gay rights). From these groups, we selected equal numbers of groups that did not openly embrace either party (e.g., Yahoo! The Political Spinroom) and those that supported one particular party (e.g., MSN The Republicans). We purposely selected equal numbers of groups with more or less diversity in order to achieve a balanced representation of both types of groups. Lastly, the groups had to be active enough so that we could retrieve a sufficient amount of messages. Hence, an arbitrary criterion of having at least one thousand posts during the sampling period was used to select discussion groups. After all these criteria were applied, there were only eight discussion groups left: alt.current-events.usa, alt.politics.republican, alt.politics.democrat, us.politics, MSN The Republicans, MSN Politically Incorrect Cafe, Yahoo! Democrats_Won!, and Yahoo! The Political Spinroom.

³ The ranking of a site was based on a combined measure of reach and page views. Reach was determined by the number of unique Alexa users who visited a site on a given day. Page views were the total number of Alexa users' URL requests for a site. However, multiple requests for the same URL on the same day by the same user were counted as a single page view. The site with the highest combination of users and page views was ranked No.1.

Due to the large number of posts in the selected groups (e.g., 21,832 posts for Yahoo! The Political Spinroom), we first generated a list of all threads posted during the sampling period for each of the groups, assigned each thread a random number, sorted the random numbers, selected the first ten threads from each group, and coded all the posts associated with these threads. The number of coded posts for each group ranges from thirteen to three hundred forty-one (see Table 1).⁴

Table 1. Online discussion groups categorized by diversity and moderation*.

	Lower Moderation	Higher Moderation
Less diversity	alt.politics.democrats (131 posts) ^a	Yahoo! Democrats_Won! (13 posts) ^c
	alt.politics.republican (84 posts) ^b	MSN The Republicans (50 posts) ^d
More diversity	alt.current-event.usa (102 posts) ^e	Yahoo! The political spin room (341 posts)
	us.politics (92 posts) ^f	^g MSN Politically Incorrect Cafe (163 posts) ^h

^a <http://groups.google.com/group/alt.politics.democrat/topics>

^b <http://groups.google.com/group/alt.politics.republican/topics>

^c http://groups.yahoo.com/group/Democrats_2008/

^d <http://groups.msn.com/TheRepublicans>

⁴ Some may suspect that the dramatic differences in post numbers across discussion groups distorted our findings. We, however, doubt that this was the case because an equal number of threads (i.e., ten) were randomly selected from each discussion group. Therefore, the variation in post numbers should reflect the variation in the natural distribution of posts across groups, which strengthens the external validity of our findings.

^e <http://groups.google.com/group/alt.current-events.usa/topics?msg=subscribe>

^f <http://groups.google.com/group/us.politics/topics>

^g <http://groups.yahoo.com/group/ThePoliticalSpinroom/>

^h <http://groups.msn.com/PoliticallyIncorrectCafe>

* All the web links to the discussion groups were updated on 2 June 2008. Other information about the groups was obtained during November and December of 2004, when this study was first designed and the discussion content was sampled.

3.2. Coding procedure

To content analyze a selected post, the subject title of the post was recorded and. The post was identified as original or not. If the post included only quotations from other sources (e.g., an online news Web site), it was identified as “not original.” Posts that contain at least some original comments from discussants were coded as “original.” If a post was not entirely or partially original, it was not coded further. A (partially or entirely) original post was then coded as an initial post or a reply. It is found that 86% of the sampled posts were original, including both entirely and partially original posts. The percentages of original posts varied across groups. Specifically, the percentages for the less diverse and the more diverse groups with lower moderation were the same, 94%. For the less diverse groups with higher moderation and the more diverse groups with higher moderation, the percentages were 81% and 79%, respectively.

After this, the post was coded for its topic—that is, either one of sixteen political issues, or pure personal attacks or others. The sixteen political issues included education, the Iraq War, national security, economy, social security, health care, environmental issues, immigration, abortion, gay marriage, gun control, stem cell research, government deficit, the electoral system, international relationships/foreign affairs, and candidates' image. Posts falling into the “others” category were not coded further for position, number of reasons, or mutual respect. For example, a post that merely provides information regarding an offline political gathering was considered “others”. Of all the original posts, 44% discussed at least one political issue. A post titled “Private school vanishes – Kids screwed,” for instance, was classified as one pertaining to education. The percentages of issue posts again varied across groups. Specifically, 59% of the original posts from less diverse groups with higher moderation were about political issues, followed by more diverse groups with lower moderation (54%), less diverse groups with lower moderation (46%), and more diverse groups with higher moderation (36%).

Moreover, 18% of all the original posts were pure personal attacks. An instance was a reply to a post “The lynching of Dan Rather,” which said, “I guess I showed you what a classless yokel you really are. What I said was really clever. You're a smarts and you mistake being a smartass as clever. You're a punk. You come back

with punk answers.” The percentages of posts including only personal attack also varied across groups. In particular, less diverse groups with lower moderation contained the highest percentage of personal attack posts (25%), which was followed by more diverse groups with higher moderation (20%), more diverse groups with lower moderation (10%), and less diverse groups with higher moderation (2%). The rest of the original posts (38%) did not discuss a political issue and/or attack another person.

Only those concerning political issues or personal attack were coded for the variables of interest (i.e., position, the number of reasons provided by discussion participants, and/or mutual respect) and included in our analysis. To be clear, coding of these variables was limited to discussants’ original comments given that arguments have to be one’s own rather than borrowed in order to be true, genuine and sincere (Habermas, 1984). Put differently, if a post was partly copied from another information source and partly written by a discussion participant, then only the part originating from the participant was coded.

For an issue post (i.e., a post discussing one of the sixteen issues), its position and the number of reasons provided were coded. Position was categorized as either “pro-Democratic,” “pro-Republican,” or “no clear position.”⁵ For example, if a

⁵ The criteria used to categorize the position of each post were created based upon the information

post supported the withdrawal of troops from Iraq or claimed that the Iraq War was a mistake, then it was coded as pro-Democratic. By contrast, if a post argued that the war was justified or made America safer, then it was coded as pro-Republican. Number of reasons was measured by counting all the reasons presented in a post (see Cappella, Price and Nir, 2002). For example, if one discussant argued for legalizing gay marriage, both the reasons provided in support of his or her position and the reasons against opponents' position (e.g., banning gay marriage) were counted.

After coding the reasons, coders re-examined the post, looking for incidences of lack of mutual respect based upon criteria adapted from a study by Papacharissi (2004). Specifically, lack of mutual respect was assessed by the presence of indicators of incivility (i.e., threatening democracy or others' rights, and/or using stereotypes) and by the number of impolite words involved in attacks on another person.⁶ For example, stereotyping another discussant (e.g., associating a person with a group by using a label) was considered an incidence of incivility. If any indicator(s) of incivility were present, a post scored 1 on incivility; otherwise, it

from the following Web site: the official Web sites of Democratic National Committee (<http://www.democrats.org/>), Republican National Committee (<http://www.rnc.org/>), Senator John Kerry's 2004 Presidential Campaign (<http://www.johnkerry.com/>), and President George W. Bush's 2004 reelection campaign (<http://www.bush2004.com/>).

⁶ Impolite words were counted if a post used "name-calling (e.g., weirdo, traitor and crackpot), aspersions (e.g., reckless, irrational and un-American), synonyms for liar (e.g., hoax and farce), hyperbole (e.g., outrageous and heinous), and/or words that indicated non-cooperation, pejorative speak, or vulgarity" (Papacharissi 2004, 274). Instances that had to do with sarcasm, using all-caps, or other types of more covert impolite behavior were also counted as impolite words in our study.

scored 0. Impolite words were added up to comprise an aggregative measure. For instance, a post including the comment, “Bush was a *coward* during the Vietnam era and now he is a Class A *fool!*” scored 2 on impoliteness. A post containing pure personal attack—defined as pure personal insults without any reasons—was not coded for position or reasons, but for mutual respect. Indicators of incivility—including threats to democracy (0% among issue and personal attack posts), threats to others’ rights (1%), and stereotyping (4%)—rarely occurred in our sample. As a result, we used the number of impolite words as the indicator of lack of mutual respect in the following analyses. All the posts were coded by two trained coders.⁷ A randomly selected subsample of twenty posts was coded by both coders to allow for the calculation of inter-coder reliability (for originality, Krippendorff’s $\alpha = 1$; topic, Krippendorff’s $\alpha = .93$; position, Krippendorff’s $\alpha = .77$; number of reasons, Krippendorff’s $\alpha = .97$; incivility, Krippendorff’s $\alpha = .78$; number of impolite words, Krippendorff’s $\alpha = .74$).

3.3. Measures of structural features

Diversity and moderation were considered two types of structural features of online political discussion groups because they can encourage particular usages of the discussion groups among the participants (e.g., free expressions of one’s opinions; Papacharissi, 2009). Though online discussion groups can use structural

⁷ The two coders were the first two of the three authors of this paper.

features to engage participants who differ from each other in many ways (e.g., gender or race), this study focused on the features that stimulate participation from people with different political leanings. This was because our examination was undertaken in the context of the 2004 US presidential election. Diversity, as a type of structural feature of online spaces, was captured by the title of a discussion group (see Table 1 for group classification based upon diversity). For example, a group with the title of “MSN The Republicans” was considered a group with less diversity because the title implied that the group had been established for Republicans. A group with the title of “Yahoo! The Political Spinroom,” on the other hand, was considered a group with more diversity because its title did not indicate that it had been established for discussants with a particular ideology. Though there were other kinds of structural features that may influence the composition of discussion participants (e.g., a group’s mission statement), a group’s title was arguably the most prominent one to all Internet users. The group owner(s) can use the title to send out a clear signal of what kinds of participants are welcome or unwelcome. Hence, using group titles to measure diversity had face validity. Moreover, our analysis (elaborated later in the “validity check” section) also verified the validity of the measure.

Moderation, as a type of structural feature, was measured by a three-item index, which consisted of the following questions. First, we asked whether there were

any written rules that encouraged certain types of discussions while discouraging others. For example, the discussion rules of the Politically Incorrect Cafe were stated as follows: “We recognize that political debate can be contentious and meaningful. At the same time, we believe that it’s important to exercise a measure of civility in the forum and respect for others’ views.” Second, we asked whether there were any moderators present in the discussion group. This could be judged by reading the moderator list. Third, we asked whether there were any censorship of membership in the groups? In other words, were there moderator(s) who approved and rejected registration requests? For each item, a positive response (i.e., yes) was coded as 1, and any other response was coded as 0. Hence, the moderation index ranges from 0 to 3.

The four Google groups (alt.politics.democrats, alt.politics.republicans, alt.current-event.usa, and us.politics) scored zero on the moderation index. These groups had no written rules or registration censorship. One could read the posts without limitation, and posting messages only required an e-mail account. Moreover, no moderators were listed in these groups. As a result, these four Google groups were categorized as lower-moderation groups (as shown in Table 1). The other four groups (Yahoo! Democrats_Won!, MSN The Republicans, Yahoo! The political spin room, and MSN Politically Incorrect Cafe) scored 2 or higher on the moderation index and therefore, were treated as higher-moderation

groups. These four groups had written rules/guidelines for users and at least one volunteer moderator. Moderators of Yahoo! Democrats_Won! and MSN The Republicans also censored subscriptions.

3.4. Validity check of measures of structural features

Given that heterogeneous opinions should be more likely to emerge in online spaces that encourage disagreeing participants to engage in discussions (i.e., more diverse groups) than in spaces that attempt to limit discussions to like-minded people (i.e., less diverse groups), we checked the validity of our measure of diversity (i.e., group titles) by examining whether messages from groups with more diversity—based upon group titles—contained more heterogeneous opinions than those from groups with less diversity. To do so, we created a heterogeneity index to assess opinion heterogeneity of discussion content. The index for each thread was created by dividing the number of posts supporting one view (e.g., pro-Democratic) by the number of posts supporting the other view (e.g., pro-Republican). A thread had the highest level of heterogeneity when there was an equal number of posts supporting each position, which was coded as 1. It had the lowest level of heterogeneity when there were only messages supporting one view, which was coded as 0. An independent t-test on the heterogeneity index—using our measure of diversity (i.e., group titles) as the grouping variable—showed that groups with more diversity scored significantly

higher on the heterogeneity index ($M = .50$) than groups with less diversity ($M = .29$; $p < .01$). The finding provided additional support for the validity of our measure of diversity (i.e., the group titles).

Moreover, because moderating activities should be more likely to happen in groups with design elements that allow such activities to exist (i.e., high-moderation groups) than in groups without such elements (i.e., low-moderation groups), we checked the validity of our measure of moderation (i.e., the three-item index) by investigating whether groups with higher moderation—based upon the index—demonstrated more moderating activities than group with lower moderation. To do so, we thoroughly examined all the sampled posts and looked for the following indicators: (1) whether there were posts deleted and/or edited by moderator(s) and (2) whether moderator(s) posted messages to encourage or discourage a certain type of behavior. None of the Google groups (alt.politics.democrats, alt.politics.republicans, alt.current-event.usa, and us.politics) showed any signs of moderating activities. According to the official response from Google (e-mail exchange on December 3, 2004) and information from other sources (e.g., Wikipedia), messages posted on Google online spaces cannot be deleted by anyone except authors themselves. The response from Google also clearly indicated that the company does not “own or manage any Usenet groups.” By contrast, there were management posts appearing on the MSN

Politically Incorrect Cafe during the sampling period, in which the moderator asked a discussant to stop a personal attack. Moreover, when the attacker did not listen to the moderator, there was one post clearly shown as having been deleted by the moderator. There were six posts deleted in Yahoo! The Political Spinroom, but it is not clear whether the posts were deleted by the authors themselves or the moderator. According to our observations, unlike Google, Yahoo! and MSN did authorize moderators to censor subscription, approve, and delete posts. Taken together, we found some evidence to support the idea that high-moderation groups tended to have more moderating activities than low-moderation groups, which lent support to the validity of our measure of moderation (i.e., the three-item index).

4. Analytical procedure and results

Focusing on the relationships between the two types of structural features of online spaces and the deliberative quality of discussions, the post-level data were aggregated to the thread-level and analyses were run at the thread-level. In other words, the unit of analysis of this study was the thread. Specifically, we conducted log-linear regressions on the dependent variables of interest (i.e., number of reasons and impolite words) with diversity and moderation as two predictors. Log-linear regressions were chosen because our dependent variables, by nature, are counts, which suit a Poisson regression (Agresti, 2002). We used two dummy

variables X_d, X_m to represent diversity and moderation: $X_d = 1$, if and only if the thread belonged to the groups with more diversity, and $X_m = 1$, if and only if the thread belonged to the groups with higher moderation. If $\mu = \mu(X_d)$ is the average number of reasons/impolite words at X_d , the relationship between the average number of reasons and diversity was captured in the following estimated regression equation: $\log \mu = 3.75 + 0.16X_d$. The goodness-of-fit of this model was satisfactory (*likelihood ratio chi-square* = 11.83, $p < .01$) and the positive effect was significant ($z = 3.41$, $p < .001$). However, the relationship between the average number of impolite words and diversity was not significant. Thus, in exploring the relationship between diversity and the deliberative quality of online discussions (RQ1), we found a positive relationship between the levels of diversity and the number of reasons but no significant relationship between diversity and the number of impolite words. When it came to determining the relationship between moderation and the deliberative quality of discussions (RQ2), the analyses showed no significant relationships between moderation on the one hand and the number of reasons and impolite words on the other hand.

Finally, to examine how diversity may moderate the relationship between moderation and discussion quality (RQ3), we estimated another model with diversity, moderation, and the interaction between the two as predictors. The new

model had an even better fit than the original models in predicting number of reasons (*likelihood ratio chi-square* = 149.06, $p < .001$) and impolite words (*likelihood ratio chi-square* = 148.94, $p < .001$). Hence, we found significant interaction effects of diversity and moderation on the number of reasons ($z = 10.99$, $p < .001$) and impolite words ($z = 7.63$, $p < .001$). The statistics of the independent effects of diversity and moderation as well as the interaction effects between the two are summarized in Table 2.

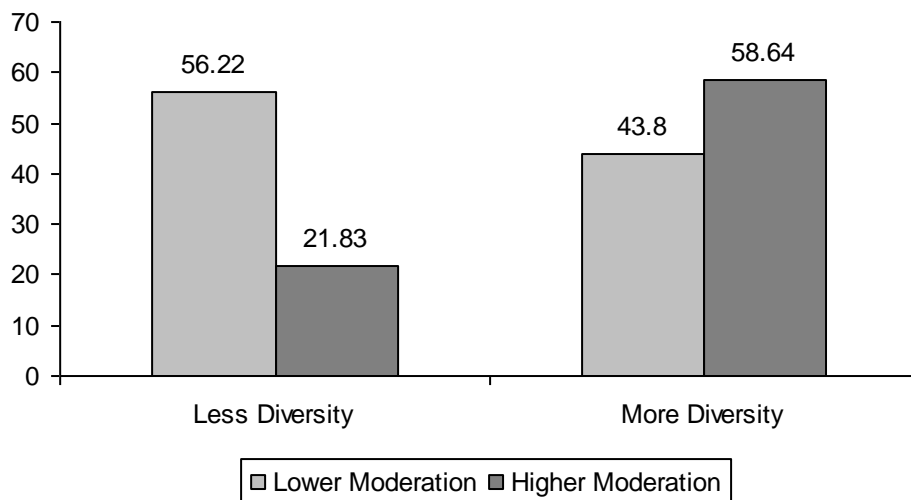
Table 2. Log-linear regressions predicting number of reasons and number of impolite words per thread.

	Number of reasons (z-score)	Number of impolite words (z-score)
Diversity	3.41**	-0.60
Chi -square	11.83*	0.36
Moderation	-1.29	-1.08
Chi -square	1.67	1.18
Diversity*Moderation	10.99***	7.63***
Chi -square	149.06***	148.94***

* $p < .05$, ** $p < .01$, *** $p < .001$

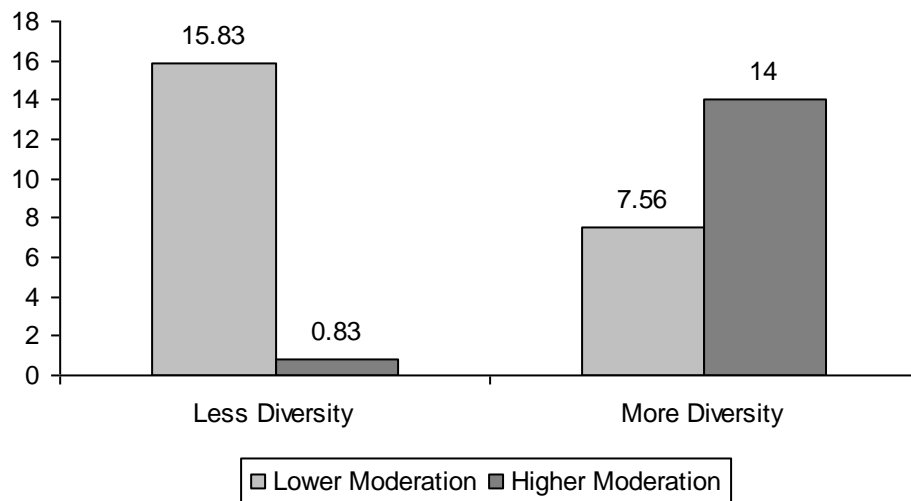
To better understand the observed interaction effects, we separately examined the relationship between moderation and the discussion quality in more diverse groups compared with less diverse groups. In the more diverse groups ($X_d = 1$), moderation had a positive relationship with number of reasons; that is, the more moderation, the more reasons (see Figure 1). This relationship was captured with the following formula: $\log \mu = 3.78 + 0.29X_m$. However, in the less diverse groups, moderation had a negative relationship with number of reasons; that is, the more moderation, the fewer reasons (see Figure 1). The relationship was manifested as follows: when $X_d = 0$, $\log \mu = 4.03 - 0.95X_m$.

Figure 1. The interaction effect between diversity and moderation on number of reasons per thread (marginal means).



As for the relationships with the number of impolite words, moderation had a positive relationship with the number of impolite words in the more diverse groups ($X_d = 1$); that is, the more moderation, the more impolite words (see Figure 2). This relationship was captured with the following formula: $\log \mu = 2.02 + 0.61X_m$. By contrast, in the less diverse groups, moderation had a negative relationship with the number of impolite words; that is, the more moderation, the fewer impolite words (see Figure 2). This relationship was manifested as follows: when $X_d = 0$, $\log \mu = 2.76 - 2.95X_m$.

Figure 2. The interaction effect between diversity and moderation on number of impolite words per thread (marginal means).



The findings suggest that moderation as a type of structural feature of online

spaces may lead to different kinds of moderating activities, depending upon the diversity of the groups. In groups with more diversity, moderation was positively related to reasonable arguments perhaps because moderator(s) of these groups were able to encourage disagreeing participants to provide reasons for and/or against a position. For example, Yahoo! The political spin room (one higher moderation group with more diversity) has witnessed a hot debate between Democrats and Republicans in 2004 because “varying points of view are encouraged and no political topic is off-limits”. The moderator of this group has been active to encourage participants exchange reasonable arguments not personal attacks. One strategy the moderator used is to urge participants to ignore the other party’s attack and focus on issue debates. She argued in a post published on October 28, 2004 that “we’re all adults here and we can ignore/block and/or walk away from any kind of post or poster we want to. So I ignore most of what I consider 'crap' posts-- no matter who they come from.”

At the same time, active intervention from moderator(s) may have also created the impression—among discussants involved in serious opinion conflicts—that moderator(s) sided with the other party. The impression, in turn, compelled discussants to express their opinions in an aggressive way, and, therefore, to become increasingly impolite when arguing with group members with different opinions. Consequently, a negative relationship between moderation and

politeness was observed in groups with more diversity. For instance, in Yahoo! The political spin room, one participant called “Susan Biggersta” was a Bush supporter and had a fight with a Kerry supporter called “floridasurfcaster1”. When the moderator, “amy_by_the_sea”, tried to stop the personal attacks, Susan felt that the moderation was only operated on her but not her opponents. She said “That is unfair if you read all of his posts he has been wacked out... It has been extreme and I spoke up but then again if I were Denise, Mike or Grace you would accept it.” As a consequence, Susan registered another account, “conservativefirst”, to continue attacking her opponents using impolite words.

By contrast, active interventions from moderator(s) of groups with less diversity may have facilitated the proliferation of group coherence. In other words, moderators of such groups may have helped to create a sense of community among like-minded discussion participants, which made them think their views were shared by members of the groups, and, therefore, there was no need to justify their opinion with reasons. As a result, a negative relationship between moderation and number of reasons was found in these groups. Moreover, as group coherence was created by moderating activities, discussion participants very likely wanted to maintain good relationships with each other. This may help to explain why moderation was negatively associated with the number of impolite words in groups with less diversity. The instances of such mechanisms can be

seen in the absence of serious opinion conflicts in the higher moderation groups with less diversity. Most of the posts there clarify information, reinforce each other's viewpoints, and collectively assault the opponents if any impolite words are used. Languages such as "Excellent point!!!!!!!!!! Never thought of that" are frequently seen. In Yahoo! Democrats_Won!, one participant "facetoface2500" posted an article titled "St. Paul Mayor, a Democrat, will back Bush". A group member "becca111" answered "facetoface.....get off our democratic list...and, go cheney yourself..." and another one, "dalemustered", echoed "hello becca you indeed go girl you indeed tell these republican shit heads to get lost. i am indeed extremely indeed proud of you. get lost you republican shit heads." It was within 3 hours that "facetoface2500" disappeared from this group, suggesting a deletion of his/her membership.

5. Discussion

This study examined the relationships between two types of structural features of online discussion spaces (i.e., diversity and moderation) and the deliberative quality of online discussions (indicated by reason-giving and mutual respect). Our analyses showed that there was a significant positive relationship between diversity and the number of reasons provided by discussion participants. This finding is in line with earlier research showing that disagreements encourage reason-giving (Price, Cappella and Nir, 2002) because diversity, as a type of

structural feature, introduces heterogeneous opinions and, therefore, disagreements into online discussion groups. Moreover, we found that the relationship between moderation and the discussion quality varied depending upon the degree of diversity of online spaces. Specifically, moderation was associated with more reason-giving but less politeness in groups with more diversity; however, it showed a negative relationship with reason-giving but a positive relationship with politeness in groups with less diversity. The findings suggest that different group compositions and purposes may lead to different moderation as well as participation behaviors, which result in the different quality of online political discussions as we have seen in the eight cases.

In addition, our findings suggest that reasonable arguments and mutual respect—the two principles of deliberative democracy—do not always go hand in hand. In other words, even though an ideal deliberation requires both reasonable arguments and mutual respect among participants, the two features may not occur simultaneously in the real world. For example, in more diverse groups, moderation may stimulate reason-giving but discourage politeness, which suggests that a trade-off between promoting reasonable arguments and encouraging mutual respect can occur in online discussions. Hence, future studies should try to identify the conditions that maximize both reason-giving and mutual respect in online political discussions.

Finally, our findings of a lack of mutual respect in reasonable discussions among disagreeing discussion participants strike the core of the debate between the deliberative model and the antagonistic model of democracy. Although mutual respect is considered a principle of deliberative democracy, the antagonistic model of democracy argues that mutual respect is unnecessary and even counterproductive when considering the role of the Internet in democracies because online political discussions do not have to be polite to make meaningful contribution to democracies. Therefore, our findings lend support to the antagonistic model of democracy by showing that mutual respect may not be able to coexist with reasonableness in discussions between disagreeing participants and that it might not be wise to sacrifice contentious yet reasonable discussions in exchange for politeness.

An important practical implication of our findings is that if design choices can influence deliberation, online political discussions are subject to various forces that try to shape the Internet through design features. Web designers such as those of online discussion groups may not bear in mind the principles of deliberative democracy when building the Web sites. Instead, commercial interests may prescribe the purpose of social media (e.g., Facebook) with no thoughts given to the Internet as a deliberative space. State actors are able to inhibit the utilization

of the Internet as a deliberative platform through controlling the design features (e.g., blocking websites, banning keywords, etc) without abandoning the Internet altogether (Goldsmith and Wu, 2006). On the other hand, we can imagine designers inspired by the deliberative democracy ideal work towards this goal and make the online spaces consistent with the values and norms embedded in the model. A future venue of research shall keep exploring how design choices shape online political discussions.

The limitations of the study should be kept in mind when we draw conclusions from the findings presented here. First, this study used cross-sectional data to examine the relationships between two types of structural features of online spaces (i.e., diversity and moderation) and the indicators of deliberative quality of online political discussions (i.e., **reason-giving** and mutual respect). The nature of the data prevented us from ascertaining the causal direction of the relationships observed here. Hence, more studies need to be conducted in the future to determine the causal directions of the relationships manifested in this study.

Second, because of the cross-sectional nature of our data, we cannot completely rule out other factors (e.g., differences in the demographic profiles of users from Google, Yahoo! and MSN) that may account for the observed relationships between the structural features of online spaces and the discussion quality. Hence,

experimental studies may be conducted in the future to examine the causal relationships between diversity and moderation on the one hand and the deliberative quality of online political discussions on the other hand.

Third, this study explored the relationships between the structural features of online spaces and the deliberative quality of online political discussions within a specific context (i.e., the last month of the 2004 US presidential campaign), using messages from selected Web sites (i.e., google.com, yahoo.com and msn.com). As a result, findings from this study may not be generalized to discussions occurring in other contexts and/or on other Web sites. Therefore, further research may consider testing the relationships observed here in different contexts (e.g., political blogs).

In conclusion, this study speaks to the deliberative model of democracy and its manifestation in cyberspace. Its findings suggest that although the Internet has a tremendous potential to facilitate civic engagement in general and deliberation in particular, it should not be taken as a whole when examining its significance. Rather, we need to identify and test specific factors that may shape both the quantity and quality of political discussions online. Furthermore, political deliberation does not occur automatically on the Internet without any structural facilitation such as proper moderation. Thus, the findings of this study not only

provide a piece of empirical evidence regarding the covariations between two types of structural features of online spaces (i.e., diversity and moderation) and the deliberative quality of online discussions, but also call for further attention to developing efficient design elements of online spaces that can be used to enhance online deliberation.

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Highlights

- Two principles of deliberative democracy are reason-giving and mutual respect, which can be used to assess the quality of online political discussions.
- The structural features of online discussion spaces vary in the dimensions of diversity and moderation.
- The results show that the relationship between moderation and the discussion quality was conditioned on the diversity of the spaces.
- The structural features of online spaces may shape the deliberative quality of political discussions and, thus, deserve further scholarly attention.