

Development Characteristics and Influencing Factors of Group Conflicts in Online Encyclopedias: A Postprint

Authors: Yu Jinping, Huang Linghe, Yun Hui

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Abstract

[Purpose/Significance] Analyzing large-scale user discussion processes can deeply excavate the development characteristics and influencing factors of group conflicts in online encyclopedias, and help understand group conflict phenomena in the content production process, providing theoretical guidance for managing such conflicts. [Method/Process] Based on team conflict theory, a coding framework comprising seven variables—entry topic, conflict cause, task complexity, conflict duration, conflict intensity, conflict transformation, and conflict outcome—was constructed. Using content analysis, 137 “user discussion processes” related to entry editing conflicts were selected from Baidu Encyclopedia Bar and analyzed from three aspects: conflict initiation, intermediate process, and conflict outcome. [Results/Conclusion] The study found that cognitive differences, interest contradictions, and power disagreements are all causes of group conflicts in online encyclopedias, with no primary or secondary distinction. Task complexity is positively correlated with conflict intensity, and within a certain range, is negatively correlated with the likelihood of conflict occurrence, but has no direct impact on conflict outcomes. Conflict transformation significantly increases conflict intensity, and conflict intensity is positively correlated with conflict duration. Both excessive conflict intensity and conflict transformation are detrimental to conflict resolution. The outcomes of group conflicts in online encyclopedias include five types: separation, domination, compromise, integration and consensus, and structural improvement, but more than half of the conflicts remain unresolved.

Full Text

Research on the Evolution Characteristics and Influencing Factors of Group Conflicts in Internet Encyclopedias

Yu Jinping, Huang Linghe, Yun Hui

School of Management, Hebei University, Baoding 071002

Abstract:

[Purpose/Significance] Analyzing large-scale user discussion processes can deeply reveal the evolution characteristics and influencing factors of group conflicts in internet encyclopedias, help understand group conflict phenomena in content production processes, and provide theoretical guidance for managing such conflicts. [Method/Process] Based on team conflict theory, this study constructed a coding framework comprising seven variables: entry topic, conflict cause, task complexity, conflict duration, conflict intensity, conflict transformation, and conflict outcome. Using content analysis, we examined 137 “user discussion processes” related to entry editing conflicts selected from Baidu Encyclopedia’s discussion forum, analyzing three aspects: conflict onset, intermediate process, and conflict outcome. [Result/Conclusion] The study found that cognitive differences, interest contradictions, and power disagreements are all causes of internet encyclopedia group conflicts, with no primary or secondary distinction. Task complexity is positively correlated with conflict intensity and, within a certain range, negatively correlated with the likelihood of conflict occurrence, but has no direct impact on conflict outcomes. Conflict transformation significantly increases conflict intensity, which is positively correlated with conflict duration. Both excessive conflict intensity and conflict transformation are detrimental to conflict resolution. Internet encyclopedia group conflict outcomes include five types: separation, domination, compromise, integration, and structural improvement, but more than half of conflicts remain unresolved.

Keywords: Internet encyclopedia; group conflicts; discussion process; content analysis method

Internet encyclopedias have become one of the most widely used information sources in the internet era [1]. Their success lies not only in Wiki’s unique version control technology and related mechanisms, but also in their massive and diverse user base. User diversity is an important guarantee for entry quality reliability, but also a primary cause of group conflicts. Research shows that group conflicts of appropriate intensity can improve entry quality [2-3], but when conflict intensity becomes too high, entry quality may significantly decline [4]. To address the harmful effects of group conflicts, internet encyclopedias have established editing principles such as “neutrality” [5], provided group communication channels such as entry discussion pages, user discussion pages, and BBS forums [6], and granted certain core users the authority to manage

and coordinate conflicts [7].

These measures typically ensure orderly encyclopedia editing and promote steady improvement in entry quality [8]. However, there are also cases where group conflicts spiral out of control, leading to disorderly editing and sharp fluctuations in entry quality, such as the “Nanjing Massacre” [5] and “PX” incidents—so-called “edit wars” in internet encyclopedias [9-10]. This suggests that existing measures for coordinating internet encyclopedia group conflicts have limitations. Combined with the enormous traffic volume of internet encyclopedias, the consequences of excessive or uncontrolled group conflicts are difficult to estimate. Therefore, there is an urgent need to deeply understand this type of group conflict.

In this paper, “group” refers to a user community formed around a particular entry in an internet encyclopedia. Group conflict is the state of opposition that emerges during the entry editing process and the accompanying discussion process [11-13]. During entry editing, group conflict often manifests as a dynamic process of users repeatedly modifying each other’s edits, also known as entry editing conflict. During user discussion processes, group conflict often manifests as verbal arguments among users, which typically represent a continuation of entry editing conflicts. Based on the analysis of these two processes, many characteristics and influencing factors of internet encyclopedia group conflicts have been identified.

In terms of research on conflict characteristics in internet encyclopedias: Studies based on entry editing process analysis show that as entry scale expands, group conflicts exhibit rapid growth [6]. A. Kittur et al. found that group conflicts exist in the editing processes of every thematic category in English Wikipedia, but the vast majority are concentrated in a few topics such as religion, philosophy, and figures [14]. Group conflicts can be divided into different patterns according to various criteria. Based on duration, they are classified as short-scale and long-scale patterns [15]; based on interval length, they are classified as single, intermittent, and persistent conflicts, which differ significantly in intensity and duration [16]. In long-scale or persistent conflicts, mutual modifications among users can reach up to 20 times [12], and high-intensity conflicts often have sudden onset characteristics [17-18]. Group conflicts have multiple network structures, and different structures affect entry quality differently [19]. Studies based on user discussion process analysis show that most discussions relate to entry editing conflicts [20-21], and users exhibit various conflict handling styles such as cooperation and competition [22]. Additionally, some single-case studies of specific entry discussion processes found that while conflicts may intensify at the micro level, the overall trend is toward rational mitigation [23-24].

Regarding research on influencing factors of internet encyclopedia conflicts: Existing studies often measure conflict intensity using “rollback counts” or “conflict tags,” then employ statistical analysis or simulation to explore influencing factors. Results show that editing task conditions [4], number of modifications during editing, number of editors per entry, user participation [4, 19, 25], and

discussion frequency are all positively correlated with conflict intensity [6]. Different user roles and tolerance levels among users also significantly affect conflict generation and development [26-28]. Overall, previous research based on large-scale entry editing process analysis is extensive, but limited by insufficient information in editing processes, such studies lack depth, particularly in revealing the evolution mechanisms of internet encyclopedia group conflicts. While studies based on user discussion processes have examined conflict development and improved research depth, most are single-case studies, making their conclusions' representativeness questionable. Moreover, research has confirmed that language, culture, and social norms significantly affect internet encyclopedia editing [29]. However, previous studies analyzing internet encyclopedia group conflicts through discussion processes have almost exclusively focused on English Wikipedia, with few examining encyclopedias in other languages. Therefore, to comprehensively understand internet encyclopedia group conflicts, it is necessary to include non-English encyclopedias in research.

Based on this analysis, this study takes a typical Chinese-language internet encyclopedia as its research object, uses content analysis to examine numerous user discussion processes related to group conflicts, and summarizes more general characteristics of internet encyclopedia group conflicts, particularly their evolution patterns. Theoretically, this research helps better understand the phenomenon of internet encyclopedia group conflicts and user interaction behaviors in collaborative production. Practically, it provides guidance for internet encyclopedias to better coordinate group conflicts.

2. Research Questions

Conflict, as a social phenomenon, exists at all levels of human activity. Based on scope, conflicts can be divided into macro, meso, and micro levels. Macro-level conflicts involve political parties, classes, nations, or civilizations, studied primarily through sociological paradigms; meso-level conflicts involve groups or organizations, studied through economic paradigms; micro-level conflicts involve intra-team or individual conflicts, studied through psychological paradigms [30]. Teams here refer to groups of two or more individuals formed to complete tasks or achieve goals, where members assume different roles, perform different functions, and are interdependent [31-32]. In internet encyclopedias, user groups formed around entry editing tasks have no formal organization but share common goals of improving entries. Research shows that internet encyclopedia group members can be divided into core and non-core members [33], assume different roles, complement each other, and are interdependent [34]. Therefore, internet encyclopedia user groups can be considered a type of team, and internet encyclopedia group conflicts can be categorized as team conflicts. Many conclusions from team conflict research have been confirmed in internet encyclopedia contexts, such as the division of conflicts into task and relationship conflicts that can transform into each other [13], and conflict as a dynamic process with beginnings and end points [10].

Based on this, combined with team conflict research findings and investigations of actual internet encyclopedia group conflicts, we summarize the evolution process of internet encyclopedia group conflicts as shown in [Figure 1: see original paper]. The root causes lie in team member differences and disagreements. Shallow factors include differences in gender, age, and roles, while deep factors involve cognitive and interest disagreements [35-36]. Group conflicts typically first occur during entry editing, then manifest in user discussion processes. Based on content, conflicts can be divided into task and relationship conflicts, which can transform. Conflict evolution and final outcomes are influenced by task design, internal environment, and external environment [30]. While previous research has addressed these aspects, several questions about internet encyclopedia group conflict evolution remain empirically untested: (1) What are the characteristics of internet encyclopedia group conflict evolution, specifically regarding onset, intermediate process, and final outcome? (2) Does conflict onset affect the intermediate process? (3) Does conflict onset affect the final outcome? (4) Does the intermediate process affect the final outcome? These questions are addressed in this study to better understand and manage these conflicts.

3. Research Design

3.1 Data Source and Sample Selection

This study selected “Baidu Encyclopedia Bar” (Baidu Baike Ba) as the data source for the following reasons: (1) Baidu Encyclopedia is the world’s largest Chinese-language internet encyclopedia. As of October 16, 2019, it included over 16 million entries with more than 6.9 million contributing users [37]. Previous research shows that analysis based on Baidu Encyclopedia data can reflect both general internet encyclopedia characteristics and Chinese-language-specific features [33, 38]. (2) Before November 2018, Baidu Encyclopedia did not provide entry discussion pages or user discussion pages like Wikipedia. Although users were required to explain edit reasons, these explanations were typically too brief to reflect group conflicts. (3) Baidu Encyclopedia provides an independent platform for user discussion—“Baidu Encyclopedia Bar.” Discussions occur through post-reply interactions, with each discussion process corresponding to one topic thread. Topic threads are the basic content units, comprising thread title, poster, initial post, replies, and repliers. The poster initiates the discussion topic and writes the thread title. Repliers are subsequent participants. shows a sample topic thread where “openlonghappy” is the poster, and the discussion began with an entry editing conflict. As of October 16, 2019, Baidu Encyclopedia Bar contained over 60,000 topic threads with more than 1 million replies from over 200,000 registered users [39].

Based on this analysis, this study selected Baidu Encyclopedia as representative and used its discussion forum as the data source, specifically analyzing topic threads related to group conflicts.

Considering the massive scale and time-sorted nature of topic threads, we ex-

tracted all threads updated between October 26, 2017 and October 26, 2018, totaling 6,778 threads. Extraction occurred on October 26-27, 2018. Based on research objectives, group conflict definitions, and verbal conflict characteristics [28], we further screened threads using criteria: (1) clear conflicts occurred in entry editing before discussion began; (2) discussions focused on a specific entry editing conflict. After screening, 137 eligible topic threads remained, with examples shown in .

3.2 Coding Framework and Coding

Content analysis is a systematic, objective method for quantitative and qualitative text analysis, comprising content sampling, unit determination, coding framework development, coding, reliability analysis, and statistical analysis [40]. In this study, the basic unit was each screened topic thread. The coding framework serves as an operational guide for abstract text classification. Based on team conflict theory and previous internet encyclopedia group conflict research (Section 2), we constructed the coding framework shown in .

Regarding conflict onset, previous research has focused on when, where, who, and why. This study only examines “where” and “why” because: (1) we used cross-sectional rather than longitudinal sampling; (2) topic threads only contain user nicknames without direct identity information; (3) all discussions focus on specific entry editing conflicts, allowing us to identify entry topics (“where”), a key concern in previous research [14]. Entry topics were determined using Baidu Encyclopedia’s existing categories (nature, culture, geography, history, life, society, art, figures, economics, science, sports). Task complexity reflects editing difficulty [4] and is determined by entry attributes, so it also belongs to “where.” Following Liu Fengjun and Ransbotham et al. [4, 41], we used reference counts to operationalize task complexity. “Why” refers to conflict causes. This study deduces editing conflict causes from post-conflict discussion content. While team conflict causes are multi-level, we focus on team member differences, referencing M.A. Rahim’s classification [42] to identify three main causes: cognitive differences, interest contradictions, and power disagreements. Other causes exist, but to ensure coding reliability, we only identified the primary cause.

The intermediate process involves three variables: conflict duration, conflict intensity, and conflict transformation. Conflict duration is the time from conflict onset to resolution. Conflict intensity is the degree of opposition during conflict development. Since our “user discussion processes” occur after editing conflicts and represent both negotiation and conflict development [6], we operationalized duration as the time between thread creation and last update, and intensity as discussion frequency (total posts). Conflict transformation refers to whether task conflict transforms into relationship conflict. Task conflict involves opposition over editing tasks (issue-focused), while relationship conflict involves negative emotional opposition (person-focused) [43]. If discussions remained issue-focused, we considered the conflict unchanged. If they became person-focused, we considered task conflict transformed into relationship con-

flict. Due to data limitations, we only examined task-to-relationship conflict transformation.

Conflict outcomes refer to the final states reached by conflicting parties, not entry quality or team performance. Based on previous research and exploratory analysis, we used an interpersonal conflict outcome framework [44] to classify outcomes.

Traditional content analysis minimizes researcher subjectivity to obtain objective descriptions [45]. Therefore, we selected two library science graduate students as coders. Both had library science backgrounds and information behavior research experience. Before coding, the researcher trained them on the research background, coding framework variables, operational definitions, and instructions (e.g., identifying only primary conflict causes). Coders then independently coded all samples. Reliability analysis showed 100% agreement for task complexity, duration, and intensity. Cohen's Kappa coefficients for entry topic, conflict cause, conflict transformation, and conflict outcome were 0.902, 0.862, 0.844, and 0.872 respectively, all exceeding 0.8, meeting reliability requirements. Coding disagreements were resolved through discussion and negotiation based on the coding framework.

4. Results Analysis

4.1 Analysis of Conflict Onset

4.1.1 Distribution of Conflict Entry Topics Which entry topics are prone to conflict is an important question. Kittur et al.'s analysis of English Wikipedia editing processes found conflicts across all topics, with over 70% concentrated in religion, philosophy, and figures [14]. [Figure 2: see original paper]b shows Baidu Encyclopedia's conflict topic distribution, revealing that all topics experience conflicts, but over 60% occur in "figures," "economics," and "life." Chi-square goodness-of-fit test results ($\chi^2 = 145.547$, $P < 0.01$) indicate statistically significant differences in conflict distribution across topics. Combined with English Wikipedia findings, internet encyclopedia group conflicts exhibit both "dispersed" (occurring in any topic) and "concentrated" (mostly in topics related to human social activities) characteristics.

4.1.2 Distribution of Conflict Causes Previous research has discussed conflict causes extensively. Some view these conflicts as purely cognitive, with mutual modifications representing cognitive conflict manifestations [46]. Others identify additional causes including interest contradictions [10] and countering malicious vandalism [12]. Most researchers agree cognitive differences are the main cause. However, our analysis of 137 discussion processes identified only three causes: cognitive differences ($N = 54$, 39.4%), interest contradictions ($N = 39$, 28.5%), and power disagreements ($N = 44$, 32.1%). Chi-square goodness-of-fit test results ($\chi^2 = 2.555$, $P = 0.279 > 0.05$) show no significant differences among these causes, indicating cognitive differences are not the primary cause.

4.1.3 Distribution of Task Complexity Liu Fengjun et al. found that the square of task complexity negatively correlated with conflict intensity, suggesting an inverted-U relationship where moderately complex tasks trigger more conflicts than very simple or very complex tasks [4]. However, conflict intensity differs from conflict probability. We analyzed conflict distribution across task complexity levels, fitting a power function ($R^2 = 0.558$, $F(1,35) = 44.242$, $p < 0.01$), as shown in [Figure 3: see original paper]. Results indicate that internet encyclopedia group conflicts follow a power-law distribution in task complexity. With mean, median, and range of 21.98, 4.5, and 278 respectively, half of conflicts occur in entries with complexity below 5. Lower complexity means lower editing thresholds, more potential editors, greater user differences, and thus higher conflict probability. When complexity exceeds a certain range, most users cannot participate, reducing conflict probability. In summary, within a certain range, task complexity is negatively correlated with conflict probability.

4.2 Analysis of Intermediate Conflict Process

4.2.1 Basic Conditions of Intermediate Process Statistical analysis shows conflict intensity has mean, median, standard deviation, minimum, and range of 26.19, 17, 23.797, 3, and 118 respectively. Conflict duration has corresponding values of 1666.39, 73.38, 6338.018, 1, and 40999. [Figure 4: see original paper] shows distribution histograms for both variables, indicating substantial variation in Baidu Encyclopedia group conflicts, with most having low intensity and short duration. Conflict transformation occurred in 35% of cases ($N = 48$), while 65% ($N = 89$) showed no transformation. Chi-square goodness-of-fit test results ($\chi^2 = 12.27$, $P < 0.01$) confirm that conflict transformation represents a minority.

To determine whether transformation affects conflict development, we conducted independent samples t-tests between conflict transformation and both intensity and duration, shown in . Conflict intensity is significantly higher with transformation, while duration shows no significant difference. To establish causality, we compared pre- and post-transformation intensity using paired samples t-test, shown in . Post-transformation intensity is significantly higher, indicating transformation causes intensity increase. Task-to-relationship conflict transformation intensifies opposition. Additionally, conflict intensity positively correlates with duration ($r = 0.203$, $P = 0.018 < 0.05$).

4.2.2 Impact of Conflict Onset on Intermediate Process Does conflict onset affect the intermediate process? We used one-way ANOVA, cross-tabulation chi-square tests, and correlation analysis. Results show entry topic and conflict cause have no impact on intensity, duration, or transformation. Task complexity shows no relationship with duration or transformation but positively correlates with intensity ($r = 0.187$, $P = 0.039 < 0.05$). This suggests simple editing tasks produce low-intensity conflicts, while complex tasks produce high-intensity conflicts. According to cognitive load theory, task com-

pletion involves information processing and control [47]. Simple tasks involve less information, fewer debate points, and thus lower intensity. Complex tasks involve more information, more debate points, and higher intensity. Combined with onset and duration findings, simple tasks are prone to conflicts with low intensity and short duration, while complex tasks are less prone but produce high-intensity, long-duration conflicts when they occur.

4.3 Analysis of Conflict Outcomes

Conflict outcomes include five types: separation ($N = 70$, 51.1%), domination ($N = 22$, 16.1%), compromise ($N = 9$, 6.6%), integration ($N = 23$, 16.8%), and structural improvement ($N = 13$, 9.5%). Chi-square goodness-of-fit test results ($\chi^2 = 87.927$, $P < 0.01$) show significant differences, with separation being most common, indicating over half of conflicts remain unresolved. Combined with 16.1% domination outcomes, most conflicts trend toward “apathy” or “aversion” rather than “rationality” [24].

We examined whether onset and intermediate processes affect outcomes using cross-tabulation chi-square tests and one-way ANOVA. Entry topic, conflict cause, task complexity, and duration have no significant impact on outcomes. Conflict intensity and transformation significantly affect outcomes. Mean intensities for the five outcome types are: separation (28.59), domination (43.23), compromise (12.56), integration (12.26), and structural improvement (16.77). Levene’s test showed unequal variances, but Welch’s $F = 11.983$, $p < 0.01$, confirming significant differences. shows Games-Howell test results for pairwise comparisons. Separation and domination show no significant intensity difference and can be grouped together. Compromise, integration, and structural improvement show no significant differences and can be grouped together. In summary, maintaining intensity within a certain range facilitates resolution, while exceeding a threshold may prevent resolution or leave one party resentful.

shows the cross-tabulation of conflict transformation and outcomes. Despite zero-value cells, all expected frequencies exceed 0, and cells below 5 constitute $\chi^2 = 18.164$, $P < 0.01$). Transformation significantly affects outcome distribution. Comparing percentages shows that integration and structural improvement occur significantly more often without transformation. Thus, conflict transformation hinders conflict resolution.

5. Conclusions and Discussion

5.1 Research Conclusions

We answer the four research questions:

Q1: Internet encyclopedia group conflicts can occur in any entry topic but concentrate in topics related to human social activities. Cognitive differences, interest contradictions, and power disagreements are all causes without primary/secondary distinction. Within a certain range, task complexity negatively

correlates with conflict probability. Most conflicts have low intensity and short duration, with low transformation rates.

Q2: Conflict onset affects the intermediate process. Simple editing tasks are prone to low-intensity, short-duration conflicts. Complex tasks are less prone but produce high-intensity, long-duration conflicts when they occur. Task complexity positively correlates with intensity.

Q3: Conflict onset has no direct impact on outcomes. Task complexity indirectly affects outcomes through intensity.

Q4: The intermediate process affects outcomes. Excessive intensity and conflict transformation hinder resolution. Combining these results yields the key path of internet encyclopedia group conflict evolution, shown in [Figure 5: see original paper].

5.2 Theoretical Contributions and Management Implications

Theoretical contributions include: (1) Confirming that many traditional team conflict conclusions apply to internet encyclopedia contexts, such as onset and process affecting outcomes, multiple conflict causes beyond cognitive differences [41], and transformation's significant impact on intensity and outcomes [48]; (2) Providing new insights: cognitive differences, interest contradictions, and power disagreements have equal impact; task complexity has a negative (not U-shaped [4]) relationship with conflict probability and positive relationship with intensity, indirectly affecting outcomes through intensity. This multi-case study overcomes single-case limitations [24], revealing that most conflicts remain unresolved and user groups trend toward "apathy" rather than "rationality."

Conflict management theory recognizes conflict's dual nature. Based on our findings, we propose: (1) Monitor conflict-prone entries but avoid premature locking or permission restrictions, which may suppress conflict and prevent leveraging collective intelligence; (2) Control task complexity within reasonable ranges. For simple entries, use permission restrictions to raise editing thresholds (relatively increasing complexity). For complex entries, use task decomposition to divide one complex task into multiple simple tasks, preventing excessive intensity; (3) Avoid conflict transformation. Platforms should establish norms to educate and guide users, penalize emotional users, and maintain issue-focused rather than person-focused discussions.

5.3 Limitations and Future Directions

First, we only used Baidu Encyclopedia Bar, which, while representative, limits generalizability. Second, coding granularity constraints may have omitted some influencing factors. Third, we did not integrate entry editing and discussion processes, leaving unexplored areas such as dynamic effects on entry quality and relationship-to-task conflict transformation. Finally, our management suggestions lack empirical validation of their scientific feasibility.

References

- [1] Alexa. Top sites [EB/OL]. [2020-05-28]. <https://www.alexa.com/siteinfo/wikipedia.org>.
- [2] Sha Yongzhong, Yan Jinsong. Wikipedia: A new knowledge production mode in network environment and its value implications [J]. Information and Documentation Services, 2006(4): 21-25.
- [3] Ransbotham S, Kane G C. Membership turnover and collaboration success in online communities: Explaining rises and falls from grace in Wikipedia [J]. MIS Quarterly, 2011, 35(3): 613-627.
- [4] Liu Fengjun, Qiu Jiangnan, Lin Zhengkui, et al. Research on coordination mechanisms in internet encyclopedia communities: A case study of Wikipedia [J]. Management Review, 2018, 30(6): 123-133.
- [5] Huang Shunming, Li Hongtao. Collaborative writing of online collective memory: A case study of the “Nanjing Massacre” entry in Chinese Wikipedia (2004-2014) [J]. Journalism & Communication, 2015, 22(1): 6-24, 127.
- [6] Kittur A, Suh B, Pendleton B A, et al. He says, she says: Conflict and coordination in Wikipedia [C]//Proceedings of the SIGCHI conference on Human factors in computing systems. California: ACM, 2007: 453-462.
- [7] Baidu Encyclopedia. Encyclopedia category administrators [EB/OL]. [2020-05-10]. <https://baike.baidu.com/item/百科分类管理员>.
- [8] Buriol L S, Castillo C, Donato D, et al. Temporal evolution of the Wikigraph: Proceedings of web intelligence [C]//Proceedings of the 2006 IEEE/WIC/ACM international conference on Web intelligence. Washington, DC: ACM, 2006: 45-51.
- [9] Zhang Yaqiong. Group resistance and popular will: Discursive games of social conflict events in Wikipedia and Baidu Encyclopedia [D]. Shanghai: East China Normal University, 2017.
- [10] Huang Linghe, Zhang Yingjun, Cheng Jingqi, et al. Research on user conflicts in internet encyclopedia content production: The case of the “PX entry defense war” [J]. Library and Information Service, 2016, 60(3): 114-120.
- [11] Xie Jianshe, Zhu Ming. Theory and practice of social conflict management [M]. Nanchang: Jiangxi People’s Publishing House, 2005: 288.
- [12] Viégas F B, Wattenberg M, Dave K. Studying cooperation and conflict between authors with history flow visualizations [C]//Proceedings of the SIGCHI conference on Human factors in computing systems. Vienna: ACM, 2004: 575-582.
- [13] Frédéric D, Denis A, Détienne F, et al. The role of argumentation in online epistemic communities: The anatomy of a conflict in Wikipedia [C]//Proceedings of the 28th annual European conference on Cognitive ergonomics. Rostock, Germany: ACM, 2010: 91-98.
- [14] Kittur A, Chi E H, Suh B. What’s in Wikipedia? Mapping topics and conflict using socially annotated category structure [C]//Proceedings of the SIGCHI conference on Human factors in computing systems. Boston: ACM, 2009: 1509-1512.
- [15] Yasseri T, Kertész J. Value production in a collaborative environment [J]. Journal of Statistical Physics, 2013, 151: 414-439.

- [16] Sumi R, Yasseri T. Edit wars in Wikipedia [C]//2011 IEEE third international conference on social computing. Boston: IEEE, 2011: 724-727.
- [17] Yasseri T, Sumi R, Rung A, et al. Dynamics of conflicts in Wikipedia [J]. PloS one, 2012, 7(6): e38869.
- [18] DeDeo S. Conflict and computation on Wikipedia: A finite-state machine analysis of editor interactions [J]. Future Internet, 2016, 8(3): 1-23.
- [19] Wu Kewen. Conflict management and improvement design in internet group collaboration [D]. Nanjing: Nanjing University, 2013.
- [20] Kane G C, Fichman R G. The shoemaker' s children: Using wikis for IS teaching, research, and publication [J]. MIS Quarterly, 2009, 33(1): 1-22.
- [21] Schneider J, Passant A, Breslin J. A qualitative and quantitative analysis of how Wikipedia talk pages are used [C]//The web science conference 2010. North Carolina: ACM, 2010: 829-840.
- [22] Osman K. The role of conflict in determining consensus on quality in Wikipedia articles [C]//Proceedings of the 9th international symposium on open collaboration. Hong Kong: ACM, 2013: 1-6.
- [23] Dong Yang, Chen Xiaoxu. From “polarization” to “rationality” : The evolution path of public opinion in cyberspace—Insights from Baidu Encyclopedia' s “PX entry defense war” [J]. Journal of Public Management, 2015, 12(2): 55-67.
- [24] Shang Wenyi, Che Shangkun. Group polarization or negotiation and reconciliation? An empirical study of Wikipedia' s “Islamophobia” entry [J]. Library Tribune, 2019, 39(9): 71-79.
- [25] Kittur A, Kraut R E. Beyond Wikipedia: Coordination and conflict in online production groups [C]//Proceedings of the 2010 ACM conference on Computer supported cooperative work. Savannah: ACM, 2010: 215-224.
- [26] Gândica C A Y, Sampaio Dos Santos F, Carvalho J. The dynamic nature of conflict in Wikipedia [J]. Europhysics Letters, 2014, 108(1): 1-12.
- [27] Luo Shuangling, Ma Pei, Wang Ruixin, et al. A dynamic model of Wikipedia editing conflicts [J]. Science Research Management, 2017, 38(11): 18-26.
- [28] Zhao H, Kallander W, Johnson H, et al. Smart wiki: A reliable and conflict-refrained wiki model based on reader differentiation and social context analysis [J]. Knowledge-Based Systems, 2013, 47: 53-64.
- [29] Zhang J. How Baidu Baike has faced off against Wikipedia to build the world' s largest online Chinese encyclopedia [EB/OL]. [2020-05-26]. <https://www.scmp.com/tech/big-tech/article/3038402/how-baidu-baike-has-faced-against-wikipedia-build-worlds-largest>.
- [30] Chen Zhenjiao. Empirical research exploring mediating mechanisms between team conflict and team output [D]. Hefei: University of Science and Technology of China, 2009.
- [31] Cohen G S. What makes teams work: Group effectiveness research from the shop floor to the executive suite [J]. Journal of Management, 1997, 23(3): 239-290.
- [32] He Wenjuan. Research on the relationship between team conflict and team creativity [D]. Xiamen: Xiamen University, 2008.

- [33] Huang Linghe, Zhu Qinghua. Research on entry characteristics and user contribution behavior: A case study of Baidu Encyclopedia [J]. Journal of Library Science in China, 2013, 39(1): 79-88.
- [34] Welser H T, Cosley D, Kossinets G, et al. Finding social roles in Wikipedia [C]//Proceedings of the 2011 iConference. Seattle: ACM, 2011: 122-129.
- [35] Zhu Yue, Xie Jiangpei, Jin Yanghua, et al. The influence of team power distribution differences on team conflict: The role of procedural justice and legitimacy [J]. Acta Psychologica Sinica, 2019, 51(7): 1-12.
- [36] Arazy O, Nov O, Patterson R, et al. Information quality in Wikipedia: The effects of group composition and task conflict [J]. Journal of Management Information Systems, 2011, 27(4): 71-98.
- [37] Baidu Encyclopedia. Baidu Encyclopedia statistics [EB/OL]. [2019-11-26]. <http://baike.baidu.com>.
- [38] Huang L H, Zhu Q H, Du J T, et al. Exploring the dynamic contribution behavior of editors in wikis based on time series analysis [J]. Program: Electronic Library & Information Systems, 2016, 50(1): 41-57.
- [39] Baidu Encyclopedia Bar. Baidu Encyclopedia Bar statistics [EB/OL]. [2020-05-16]. <http://tieba.baidu.com/f?kw= 百度百科 &ie=utf-8>.
- [40] Zhou Xiang. Content analysis research and application in communication studies [M]. Chongqing: Chongqing University Press, 2014: 8.
- [41] Mesgari M, Okoli C, Mehdi M, et al. "The sum of all human knowledge": A systematic review of scholarly research on the content of Wikipedia [J]. Journal of the Association for Information Science and Technology, 2015, 26(7): 219-245.
- [42] Rahim M A, Garrett J E, Buntzman G F. Ethics of managing interpersonal conflict in organizations [J]. Journal of Business Ethics, 1992, 11: 423-432.
- [43] Amason A C, Sapienza H J. The effects of top management team size and interaction norms on cognitive and affective conflict [J]. Journal of Management, 1997, 23(4): 495-516.
- [44] Miller. Intimate relationships [M]. Translated by Wang Weiping. Beijing: People's Posts and Telecommunications Press, 2015.
- [45] Zhou Xiang. Content analysis research and application in communication studies [M]. Chongqing: Chongqing University Press, 2014: 211.
- [46] Wang Chunling. Research on the influence of cognitive conflict on collaborative knowledge innovation in Wikipedia [D]. Dalian: Dalian University of Technology, 2012.
- [47] Leppink J, Paas F, van Gog T, et al. Effects of pairs of problems and examples on task performance and different types of cognitive load [J]. Learning and Instruction, 2014, 30(1): 32-42.
- [48] Chen Xiaohong, Zhao Ke. Empirical research on the relationship between team conflict, conflict management, and performance [J]. Nankai Business Review, 2010, 13(5): 31-35.

Author Contributions:

Yu Jinping: Data collection, initial draft writing;

Huang Linghe: Research design, final manuscript revision;

Yun Hui: Data processing, chart production.

Note: Figure translations are in progress. See original paper for figures.

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