

Communication and Conversation: An Empirical Study on the Influencing Factors of Brand Information Value on Social Media

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This study explores the impact of content topic, media form, and conversation principle on brand information value (emotion, reputation, and relationship value). Data were collected from 14 brands through a web crawler and processed with coding and sentiment analysis. Empirical results from non-parametric tests and multiple linear regression (MLR) show that content containing community-building topics greatly influences brand information value. Compared to content that merely provides an information-providing topic, content with an action-encouraging topic has a greater effect on brand information value. There were significant differences in reputation value among the three communication modalities, but no notable variances in relationship value. The high modality was stronger for emotion value than the moderate or low modalities. For conversation features, post frequency, readability, relevance, and brand response positively influence brand information value. This study utilizes the 5W communication model as its foundational framework, extends the conversation principle to this model, and enriches content marketing theories by taking a more comprehensive brand perspective. Additionally, this study finds the relationship between the driving factors and brand information value by leveraging big data from online platforms, offering insights and a research foundation for future studies on online brand value.

Keywords: *Social Media; Brand Account; Brand Information Value; 5W Communication Model; Conversation Principle.*

Introduction

Social media is essential for promoting brand conversations, enhancing consumer-brand interactions, and co-creating brand value (Lin *et al.*, 2018). In social network marketing, users can interact with friends while sharing memorable moments, which allows them to express themselves and share product information at the same time (Wang *et al.*, 2021). User activity on social media platforms like Sina Weibo is increasing, even as short video platforms expand quickly (Sina Weibo, 2023). However, the growing complexity of the media communication landscape and the diversity of consumer preferences bring more and more challenges and uncertainties in content marketing. Therefore, marketers have to keep up with social trends and devise activities that meet the psychological demands of consumers (He *et al.*, 2022). Brand communication on social media is defined as any brand-related message interactions “it can distribute through a social media platform to enable internet users to access, share, engage with, add to, and co-create” (Alhabash *et al.*, 2017). Numerous studies have examined

social media brand communication on various aspects, including consumers' purchase intention (Schivinski *et al.*, 2022), brand equity (Llopis-Amorós *et al.*, 2019; Stojanovic *et al.*, 2022), and consumer engagement (Hollebeek & Macky, 2019; He *et al.*, 2022). Most of these studies utilize questionnaires and situational experiments as data sources to assess consumers' subjective attitudes or feelings. Research on consumer engagement also incorporates behavioral data, such as likes, comments, and shares. Considering the abundant information accessible in the social media era, brands must explore the value of online information and its underlying influencing factors through behavioral data.

The research on online brand value primarily focused on consumer perceived value (Verma *et al.*, 2020; Zhang *et al.*, 2022) and consumer-based brand equity theories (Wang *et al.*, 2021; Jiang *et al.*, 2021). Generally, perceived value refers to followers' expectations of receiving experiences, knowledge, information, or resources shared by social media accounts (Lee *et al.*, 2014). It reflects the multidimensional benefits consumers gain from online brand experiences. And

brand fans (Xu *et al.*, 2021), awareness, loyalty, and perceived quality affect it (Park & Namkung, 2022). According to Keller's consumer-based brand equity theory, managing consumers' positive responses (judgment and feelings) and fostering positive relationships is crucial for brand strength (Keller, 1993; Wang *et al.*, 2021). Empirical evidence indicates that consumers' visual attention to negative comments on brand-related posts reduces brand trust and influences sharing intentions (Bigne *et al.*, 2023). Nonetheless, positive emotions (feelings) significantly influence revisit intentions and e-WOM, moderated by social media use (Bigne *et al.*, 2020). Brand reputation is crucial for brand and product value, reflected in users' overall judgment of the brands within their posts on social media (Hollenbeck, 2018). Rust *et al.* (2021) confirmed that a brand's overall reputation positively impacts its performance. Positive judgment causes rational and emotional responses from brand audiences (Juntunen *et al.*, 2020), while relationship quality is positively associated with consumers' willingness to co-create brand value (Tajvidi *et al.*, 2021). Dwivedi *et al.* (2019) emphasize that managers should foster emotional connections with social media consumers and enhance brand equity by utilizing relationship mechanisms that bolster credibility and consumer satisfaction. Brand relationship theory suggests that the connection between consumers and brands resembles an active intimate relationship rather than a simple owner association (Fournier, 1998; Akram *et al.*, 2022). Therefore, in the light of consumer-based brand equity theory and related research, this paper proposes to deconstruct brand information value into emotion value (positive feeling), reputation value (positive judgment), and relationship value (positive relationship) to analyze the factors influencing brand information value on social media.

The 5W communication model effectively illustrates the process and elements of information dissemination (Lasswell, 1948). "5W" refers to who, what, in which channel, to whom, and with what effect. In the "5W," "with what effect," a fundamental criterion for evaluating communication activities, objectively reflects audience acceptance. And "who" and "to whom" emphasize the importance of communicators and audiences. This echoes the sections on consumer attention and interest in the AIDAT model (attention, interest, desire, action, and trust) proposed by Charlesworth (2012). The "what" in the 5W theory and the advertisement information design in the AIDAT theory highlight the importance of considering communication content. Brand-related content is an essential element that strengthens brand communication by attracting consumer interest and attention, directly affecting brand reputation (Castillo-Abdul *et al.*, 2022). Qin (2020) found that content communication can cultivate a positive consumer attitude toward brand pages. Brand posts published by brand accounts on social media constitute a pivotal means of disseminating brand content. Regardless of the company size and content marketing budget, marketers have stated that producing brand posts is difficult (Deng *et al.*, 2021). Therefore, it's necessary to investigate the impact of different content topics on brand information value. Previous research about "in which channel" has analyzed the influence of communication forms, including text, images, and video, on brand construction. As media elements such as long images and live links become more prevalent, the methods used by brands to disseminate

information have become more diverse and complex. Although long pictures and links can offer more information, consumers also need to read detailed content with more effort. Most studies have discussed how various communication forms affect consumer engagement, which indicates that more research is required to comprehend how these forms affect emotions, reputation, and relationships with brands.

Dialogue theory based on discourse spirit and social interaction theory emphasizes information communication's dialog attribute (Zhang & Ji, 2023). Social media offers brands a platform for engaging in meaningful conversations with users. Brands can achieve positive marketing outcomes by following conversational principles, including improved consumer-brand relationships (Duncan & Moriarty, 1998), increased brand awareness, captured attention, influenced behavioral intentions (Spotts *et al.*, 2015), and improved brand attitude (Steinmann *et al.*, 2015). There are a lot of studies analyzing the essence of online conversations from various perspectives. Zhou and Chen (2013) regard conversation as a dimension of content marketing in social media. The presentation of information in encouraging and interactive conversational formats tends to impact positively the marketing effect. Research on brand conversation indicates that customer interaction and participation can help maintain customer contact and loyalty, and conversations may be a more effective way to convey brand personality (He *et al.*, 2021). Hooijdonk and Charldorp (2019) aim to comprehend how rhetorical figures are employed in Facebook-generated brand posts to stimulate conversations. Dhaoui and Webster (2021) propose that conversation behavior highlights the importance of managing consumer conversations on social media, which creates conversational threads through consumer-to-consumer interactions on the digital platform. Zhu and Hsiao (2021) point out that conversation between individuals and media is a significant aspect of modern media communication. Their research has incorporated the impact of the conversation perspective on brand account followers. Therefore, investigating the factors influencing brand information value through integrating the 5W communication model can further develop this perspective. Examining brand information value from both the communication and conversation perspectives can provide valuable insights into its influencing factors.

The rest of the paper is structured as follows: Section 2 introduces the literature review, concepts, and research hypothesis. Section 3 presents data, variables, and research methods. Section 4 includes the empirical research results. Section 5 discusses the theoretical and practical contribution of the findings. Section 6 summarizes this paper, explains the conclusion and limitations of this paper, and puts forward some suggestions for further research.

Literature Review and Hypothesis Development

Upon the insights above, this study adopts Lasswell's 5W model as the foundational analytical framework to consider the brand as the information communicator (i.e., the "who") and social media users as information receivers (i.e., the "to whom"). Brands need to consider both "what" and "in which channel" of their postings when engaging in social media marketing, thinking of the brand information

value as a measure of communication effectiveness. Specifically, brands must carefully select and plan the dissemination content, ensuring this brand information aligns with their brand image, target audience, and marketing objectives. Furthermore, they should choose appropriate communication channels for effective dissemination and information reception. Both aspects are crucial in social media marketing because they enable brands to enhance their information value and strengthen brand influence.

Regarding the content to be communicated, this study refers to existing research on brand engagement and equity in social media as well as considers the impact of content topics posted by social media accounts on brand information value. From the communication, the communication channel serves as a bridge for brand information to flow from the communicator to the audience. These channels contain various media forms for disseminating brand information, such as live streaming, videos, audio, pictures, and texts. They are responsible for delivering the communicator's message effectively to the audience. These channels can be viewed as the principles that brand accounts use to enhance the brand information value in communicating with users in brand conversation. Adhering to conversation principles can help users receive brand information, achieve effective brand information communication, and exchange through immediate responses and feedback.

Content Topic

Content marketing reflects a firm's or brand's genuine commitment to offering value to (potential) customers through relevant or free content (Holliman & Rowley, 2014). The primary goal is to attract consumers' attention by providing rewarding or valuable products to cultivate enduring relationships with consumers rather than directly soliciting immediate purchases (Ahmad *et al.*, 2016) (Nagy & Midha, 2014). The content topic represents the main information presented in a brand's posts. Asmussen *et al.* (2016) define brand content as any output generated by the legal owner of the brand. The legal owner promotes its core values and entices audience engagement based on attraction-driven principles of entertainment, information, or educational value. The core of brand content is to establish more pertinent connections with consumers while minimizing disruptions.

Previous research has explored brand content topics from various perspectives. Lou *et al.* (2021) examine the relationship between the four dimensions of information, entertainment, social intercourse, and function content and brand loyalty from consumer perceived value. Meanwhile, Lou *et al.* (2019) categorize YouTube content into tutorials, brand campaigns, and consumer stories. Hou *et al.* (2021) analyze fourteen types of brands like Starbucks, McDonald's, and Samsung on Sina Weibo pages, empirically assessing their effects on consumer sentiment (likes), rational thinking (comments), and consumer identification (shares). A study on non-profit organizations using Twitter proposes an ICA classification framework for microblog content, including three categories: information, community, and action (Lovejoy & Saxton, 2012). In the ICA framework, "I" is the "information" representing informational posts. They are defined as specific enterprises, brands, products, or services.

This includes important announcements and information related to enterprise dynamics, focal events, stakeholders, etc., which aim to enhance consumer brand awareness. "C" refers to the "community." The category of its posts focuses on assisting brands in establishing a productive online community comprising organizations and target audiences. It also emphasizes developing and maintaining relationships by publishing brand posts to engage in social and emotional communication with followers. "A" is the "action", which focuses on achieving organizational goals by mobilizing individuals to "do something". Yang *et al.* (2014) adopt Lovejoy's classification standards, refine brand content, and explore the variations in brand influence. This study uses the ICA framework and Yang's research for reference and categorizes the content topics into three types: community-building, action-encouraging, and information-providing.

Brands acquire specific values and brand equity from different content topics. The empirical research of Zhang (2021) focuses on the impact of celebrity, entertainment, and product information on consumer interaction based on local cultural traditions. It can promote potentially emotional and fascinating brand experiences by providing entertaining content, thus making it more likely to create a bond with consumers than informative content (Lou *et al.*, 2019). Content related to games, lucky draws, and behavior-encouraging can also increase the emotional expression of consumers and foster positive attitudes among users (Hou *et al.*, 2021). However, behavior-encouraging content may be more likely to capture consumers' active emotional expression and brand relationships. The content within the rational framework belongs to those containing factual information related to the product (Dolan *et al.*, 2019). Informative and entertainment content can foster brand loyalty (Lou & Xie, 2021), but informative content tends to facilitate one-way communication primarily aimed at informing stakeholders about the organization's activities. Estrella-Ramon *et al.* (2019) suggest that posts with emotional content generate higher brand equity than those with rational content. Research also showed that information-focused content negatively affected sharing (Tellis *et al.*, 2019). Compared with community-building and action-encouraging content, information-providing content may contribute the least to the value of brand information. Thus, this study proposes the following hypotheses:

H1a. Content topic containing community-building has the greatest impact on brand information value.

H1b. Content topic containing action-encouraging has a lower impact on brand information value than community-building.

H1c. Content topic containing information-providing has the lowest impact on brand information value.

Media Form

From the communication media, brands utilize various forms of rich media, such as texts, articles, pictures, and videos, to convey their marketing appeals. Computer-mediated communication scholars argued that media technology affects users' perceptions of the mediated content (Sundar *et al.*, 2015). Zhao and Chen (2022) divide media form into three categories based on the use of visual,

audio, and textual content: high modality, moderate modality, and low modality. They believe that the modality of brand posts affects the different levels of members' responses in an online social media community. The posts with videos were defined as high modality. Because video content features the highest level of modality for the combination of visuals, audio, and text. The posts with moving or still images were defined as moderate due to their use of visuals and text. Posts with no visuals and audio were defined as low modality owing to the mere use of text. (Zhao & Chen, 2022).

According to the Dual Coding Theory (Paivio, 2008), visual elements are superior to verbal ones because photos are more effective in communication than text. Incorporating colorful pictures, dynamic animations, videos, or audio into brand posts can create a more vivid effect (Coyle *et al.*, 2001). Photos, videos, and hashtags, as the explicit characteristics of brand posts (Chu *et al.*, 2022), with vivid information can be more interesting, attractive, and emotionally evocative while also being easy to understand (Sreejesh *et al.*, 2020). Moreover, the more vividly brand posts are expressed, the greater the stimulation of users' senses and emotions is, leading to stronger communication intimacy and authenticity (Mehmet & Clarke, 2016; Khan *et al.*, 2016). Dhaoui & Webster (2021) study found that videos are the only post modality with a direct positive influence on consumer-brand comments on Facebook. Studies have discovered that photos (or images) can enhance post comments (Sabate *et al.*, 2014), facilitate information transfer and memory retention, as well as improve advertisement recall (Schmitt *et al.*, 1993). Unlike simple text-only posts, higher media modality enables brands to capture and stimulate multi-sensory interactions through sight, sound, and dynamics. Therefore, hypotheses are as follows:

H2a. High modality media form has the greatest impact on brand information value.

H2b. Moderate modality media form has a lower impact on brand information value compared to high modality.

H2c. Low-modality media form has the lowest impact on brand information value.

Conversation Principle

Grice's maxims of conversation are used in the communicative channel from the dialogue and conversation. This research provides four principles for achieving effective communication, including quality, quantity, relevance, and manner. Maxims were originally designed for human dialog, however, there is a similar pattern in the research on social media brands. But some adaptations are necessary when applying them to social media contexts. Therefore, this research has made modifications to certain aspects of the Maxims accordingly.

Maxims of Quantity. The "Quantity" states that you should provide enough information to explain yourself but also do not offer more than is required (Grice, 1975). Excessive posting can lead to information overload and emotional burnout of users, which may reduce consumers' intention to continuously use and adopt brand information (Duan & Cui, 2022; Zhou, 2022). As the frequency of brand information increases, consumer attitudes towards brands

initially rise but eventually decline (Li & Zheng, 2021). However, under the new forms of advertising, high-density information aims to deliver more content per unit time while enhancing touch-points with consumers and triggering emotional resonance with the brand (Duan & Cui, 2022). By continuously publishing brand information that attracts consumers' attention and changes their awareness towards a particular brand, it can form a strong relationship between them while enhancing its value. Thus, the following hypotheses are put forward:

H3a. The frequency of brand posts per day has a positive effect on brand information value.

H3b. There is an inverted U-shape relationship between the length of brand posts and brand information value.

Maxims of Quality. Information quality encompasses the quality of content, effect, symbol, and expression (Cao & Wu, 2002). Higher quality information in social media advertisements can increase online shoppers' impulses (Chua & Banerjee, 2016) and positively impact brand awareness, indirectly increasing offline purchase intention (Dabbous & Barakat, 2020). Social media users are more likely to engage with brand posts that are easy to process. Therefore, text readability is a crucial aspect of information quality that drives more likes, comments, and shares on social media platforms (Pancer *et al.*, 2019). Thus, the hypothesis is as follows:

H3c. Brand post readability has a positive effect on brand information value.

Maxim of Relevance. Information relevance pertains to the correlation between information object and need (Huang & Soergel, 2013), which can be explained as the users perceived usefulness of information (Xu & Chen, 2006). It has been utilized to determine if information meets consumer needs since the 1970s (Zhang & Choi, 2022). On Twitter, relevance is defined as the alignment between followers' information needs and the content provided by corporate accounts (Zhu & Hsiao, 2021). Advertisements related to individuals and society on social media generate more conversational value for consumers, which increases their social motivation and engagement with advertisements (Geng *et al.*, 2021). From consumers' perspectives, relevant information can encourage them to express more ideas and insights, then promote brand informational value. Thus, this study proposes the hypothesis:

H3d. The information relevance of brand posts to users actively affects brand information value.

Maxims of Manner. Maxims of manner advocate for clear, concise, and well-organized communication without ambiguity or vagueness. Zhu and Hsiao (2021) argued that Twitter should be presented in a clear and easily understandable manner. However, as a component of brand conversations, brands should also pay attention to their formality, posture, and attitude to maintain customer relationships when responding to them. Brands actively interact with consumers to enhance consumer experiences through replies to their comments and influencing their conversations (Mangold & Faulds, 2009). Research also indicates that when consumers perceive a brand to interact with them, they feel welcomed and valued by the brand. This will encourage their further engagement, form trust, and strengthen the consumer-brand relationship (Merrilees & Fry, 2003). Dhaoui and Webster (2021) suggested that prompt

replies to consumer comments can yield greater benefits. Thus, this study puts forward the hypothesis:

H3e. Brand response to comment has a positive effect on brand information value.

Therefore, this study seeks to extend the communication channel element dimension of the 5W model from both communication and conversation and explore the impact of content topic, media form, and conversation principle on brand information value in social media. The conceptual framework guiding the hypothesis development is illustrated in Figure 1.

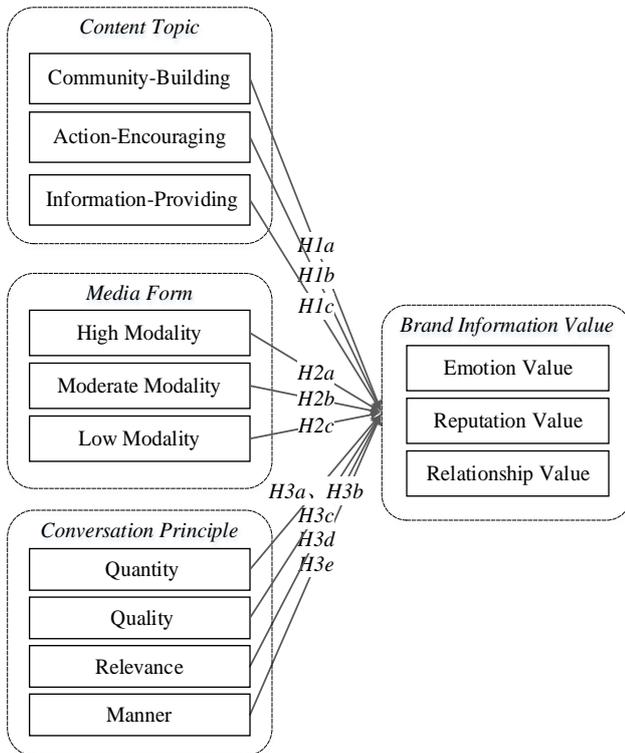


Figure 1. Conceptual Framework for Brand Information Value

Method

Data Collection

Data for this study comes from *Sina Weibo*, one of China’s preferred social media platforms. Sina Weibo is a user-relationship-based social media platform that allows users to post various forms of content, such as text, pictures, and videos. Consumers are accustomed to using Sina Weibo to get new information, it also allows users to view, press the “like” button, and comment on or share content (Carlson *et al.*, 2019). Despite the rapid development of short live-streaming platforms in China, Sina Weibo has maintained a steady increase in user activity. As of the end of 2023, the monthly active users of Weibo reached 598 million, a net gain of about 11 million, and the daily active users reached 257 million, a net increase of about 5 million (Sina Weibo, 2023).

In consideration of the representativeness of the data samples and the number of followers(exceeding 2 million followers), this study selected brand accounts from the Top 500 Brands in China listed on the World Brand Lab website (www.worldbrandlab.com), ultimately identifying retail brands across Foods and Drinks, Clothing Materials, and Household Appliance totally 14 brands including Haier,

Maotai, Wuliangye, Tsingtao Brewery, Snow Beer, Yanjing Beer, Arawana brand, MASTER KONG, Want Want, Totole, Biostime, BY-HEALTH, Bosideng, and AIMER.

After determining the research platform and brands, Python was utilized to simulate user login to Sina Weibo by setting website cookies within the program. Certified accounts for 14 brands were collected, and their corresponding URLs were searched to display the official brand pages. The open-source Scrapy framework was employed to scrape the search result pages of Sina Weibo, capturing the targeted data. A total of 1,834 official brand Weibo posts and interactive information published between October to December 2022 were recorded. The captured information encompassed various dimensions (see Figure 2), including the content details of each post, the presence of images or videos, as well as user information regarding comments, shares, likes, comment content, and whether the brand responded or not. After processing the data for outliers and duplicates, 1,834 original brand posts were retained, along with approximately 400,000 pieces of secondary data related to comments, shares, likes, and other interactions.

Measurement

Brand information value. Based on the above literature review and with reference to the CBBE theory, this paper adopts the three dimensions of emotion value (BIV1), reputation value (BIV2), and relationship value (BIV3) to measure the brand information value. Among them, emotion value reflects the self-emotional and emotional aspects of users, measured by the number of comments and shares in brand posts expressing users' positive emotions. Reputation value reflects the positive feedback from users regarding various aspects of the brand including service quality, product quality, brand personality, and other brand-related issues posted under the brand post (Rust, 2021). Emotion value and reputation value are both measured using sentiment analysis methods. There are two main approaches to sentiment analysis: machine learning and lexicon-based method. The former relies on manually labeled training sets and employs machine learning techniques to classify the sentiments expressed in text. Whereas the latter utilizes a sentiment dictionary annotated with polarity values to quantitatively calculate the polarity of sentiments expressed in text. In this paper, we refer to the brand reputation evaluation dictionary by Rust (2021) and the Hownet sentiment dictionary (Su *et al.*, 2021) as the seed dictionary, using actual user review data as the corpus, we manually expand the dictionary and complete the sentiment analysis and variable computation with the help of GooSeeker online platform in China, which is a paid sentiment analysis platform supporting customized dictionaries. The consumer-brand relationship is indicative of the strength of the connection between brands and consumers (Park *et al.*, 2013). Considering the data characteristics and accessibility of Sina Weibo, the user participation times in brand posts will be counted, and the number of repeated participation users will be used as a measure for assessing relationship value. To exclude low levels of user participation and multiple participation in a single post, we limited repeat participants to those with more than 10 engagements.

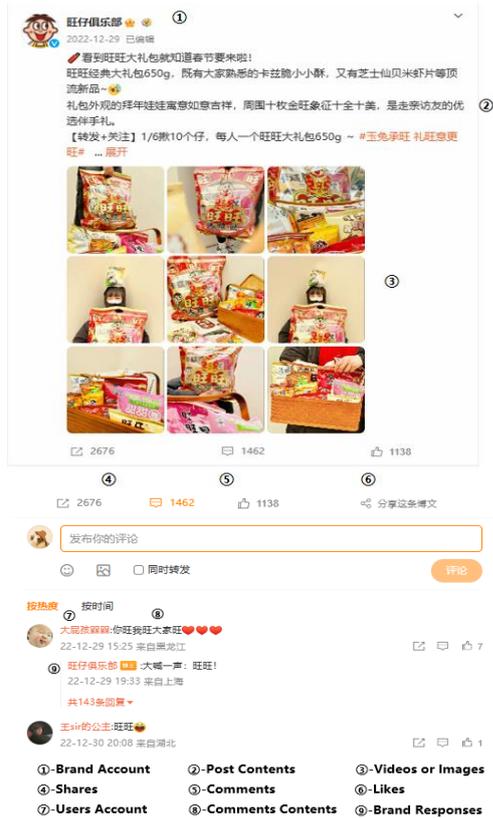


Figure 2. Brand Information Dimension Display Diagram

Content topic. As outlined in the preceding section, content topics are categorized into three forms based on the ICA framework: community-building (T1), action-encouraging (T2), and information-providing (T3). In comparison to the research of Yang & Lan (2014) and actual blog posts from brand accounts, information-providing topics are that a brand shares its company profile, product knowledge, social responsibility, technical strength, enterprise dynamic, and brand story. Action-encouraging topics are messages that guide social media users to participate, promote, and purchase that refers to brands releasing lucky draw, product promotion, sales activity, marketing publicity, and joint investment to consumers through social media platforms. Community-building topics encompass festival greetings, interactive activities, celebrity endorsements, knowledge propagation, information collection, and fun and interesting, aimed at fostering emotional connections with fans while establishing and maintaining relationships. However, in order to comprehensively explore the impact of the content topics in brand posts on brand information value, considering that brand posts may not be limited to a single topic, and to explore the maximum effect of various content topic strategies, this study adds four additional combination categories in data analysis and empirical testing: community-action combined topic (T4), community-information combined topic (T5), action-information combined topic (T6) as well as community-action-information combined topic (T7).

Media form. As outlined in the preceding section, Media forms were categorized as low modality (M1), moderate modality (M2), and high modality (M3). Posts with videos were coded as high modality. This is because video content

has the highest level of morphology due to the combination of visuals, audio, and text. Posts with moving or still images were coded as moderate modality due to the use of visuals and text. Posts without images and audio were coded as low modality because only text was used.

Conversation principle. According to the previous section, the conversation follows the four principles of quality, quantity, relevance, and manner. This study selected two quantitative indicators, one is the brand account posting frequency, and the second is the brand post length. Among them, the quantity is measured by using the post number of each brand (C1) in three months and the text length for each post (C2). This paper suggests that segmentation makes it possible for users to read post content more clearly. The use of "#" (with hashtag) not only allows users to understand the content of the post more clearly, but some brands can also enhance the story and coherence of the content of the post through the hashtag. In addition, the "【】" symbol can also enhance the readability of the text, so the quality indicator (C3) is measured using the number of punctuation marks in the post that can enhance the readability. Review content length is defined as the number of words in an online review, which is considered one of the most basic variables to predict the helpfulness of an online review (Yang & Zhou, 2021), in this paper, we argue that more relevant posts motivate users to post longer comments, so the relevance indicator (C4) is measured using the average length of comments. Brand responsiveness is the number of brand replies to particular consumer comments or entire conversations (Dhaoui & Webster, 2021), the manner indicator (C5) on Weibo can be measured by whether the brand responds to users' comments.

Code and Check

Content analysis was used to encode categorical variables in this study. Content analysis refers to the systematic, objective, and quantitative methods used for analyzing diverse forms of content (Berelson, 1952). To establish effective coding standards, the following steps were followed for scientific classification and coding of content: propose the overall research idea, select samples, develop preliminary coding standards, test the effectiveness of the coding standards through sampling tests, finalize the coding standards, conduct formal coding, and check coding validity (Liu, 2014). Two doctoral students were asked to encode each brand post independently. A set of 100 brand blog posts was extracted for pre-coding purposes without any interference between coders. Inter-coder reliability was assessed using Halsty's formula to examine encoding consistency. Results revealed high consistency in coders' classification outcomes with inter-coder reliabilities of 0.89 for content topic variable and perfect agreement (reliability coefficient=1) for media form and manner.

Analysis and Results

Descriptive Statistics

As shown in Table 1, we report the number and proportion of posts posted by each brand over a three months period.

Table 1

Brand Posts Counts Statistics (N=1834)

No.	Brand Name	N	Percentage
1	Haier	205	11 %
2	Maotai	11	1 %
3	Wuliangye	176	10 %
4	Tsingtao Brewery	114	6 %
5	Snow Beer	62	3 %
6	Yanjing Beer	66	4 %
7	Arawana brand	207	11 %
8	MASTER KONG	16	1 %
9	Want Want	476	26 %
10	Totole	77	4 %
11	Biostime	84	5 %
12	BY-HEALTH	38	2 %
13	Bosideng	155	8 %
14	AIMER	146	8 %

As shown in Table 2, we report the measurements and descriptive statistics of our variables. As shown in Table 1, the variables of C1, C3, C4, BIV1, BIV2, and BIV3 have strongly skewed distributions (*i. e.* the absolute value of skewness and kurtosis greater than 2). Therefore, to establish the correlation between the respective variables and brand information value, this study adopts a non-

parametric test for categorical variables, and Spearman correlation analysis for continuous numerical variables. After data normalization, adopt multiple linear regressions to estimate the effects of communication and conversation characteristics on brand information value. We conducted our analysis using IBM SPSS 26.

Table 2

Descriptive Statistics of Communication and Conversation elements (N=1834)

Variables Category		ID	N	Percentage	Mean	Median	SD	Skewness	Kurtosis
Content topic	Community-building	T1	208	11 %	-	-	-	-	-
	Action-encouraging	T2	627	34 %	-	-	-	-	-
	Information-providing	T3	251	14 %	-	-	-	-	-
	Community-Action combination	T4	475	26 %	-	-	-	-	-
	Community-Information combination	T5	39	2 %	-	-	-	-	-
	Action-Information combination	T6	164	9 %	-	-	-	-	-
	Community-Action-Information combination	T7	70	4%	-	-	-	-	-
Media form	Low modality	M1	42	2 %	-	-	-	-	-
	Moderate modality	M2	1368	75 %	-	-	-	-	-
	High modality	M3	424	23 %	-	-	-	-	-
Conversation principle	Quantity-Posting frequency	C1	1834	-	3.19	2.1	2.42	0.91	-0.91
	Quantity-Post length	C2	1834	-	87.31	35	76.01	2.316	6.664
	Quality-Post readability	C3	1834	-	2.33	2	1.96	2.83	24.34
	Relevance-Post relevance	C4	1834	-	9.77	4	16.82	3.77	18.35
	Manner-Brand response	C51	510	28 %	-	-	-	-	-
	Manner-No brand response	C52	1324	72 %	-	-	-	-	-
Brand information value	Emotion value	BIV1	1834	-	150.55	23	477.15	7.48	73.71
	Reputation value	BIV2	1834	-	32.86	3	203.59	14.37	237.63
	Relationship value	BIV3	1834	-	137.71	34	197.65	2.47	7.51

Nonparametric Test of Categorical Variables

Kruskal-Wallis test of Content topic and Brand information value. The results (shown in Table 3) show that the distribution differences of emotion value, reputation value and relationship value among different content topics were statistically significant ($H = 205.459, p = 0.000; H = 193.138, p = 0.000; H = 127.687, p = 0.000$). Among them, community-building topic, community-action combined

topic and community-action-information combined topic have the highest mean rank value for emotional value and reputation value, while community-building topic, action-encouraging topic and community-action combined topic have the highest mean rank value for relationship value, indicates that content contains community building topic is more able stimulate emotion value and reputation value. Community-building topics, action-encouraging topics, or

content containing both topics are more able to stimulate relationship value.

In addition, non-parametric tests are performed on content topic sub-classifications. The test results in Table 4. joint investment, company profile, and technical strength topics have statistical significance on the three dimensions

of brand information value ($p < 0.05$). Except for information collection and enterprise dynamics, the remaining variables have statistical significance on part dimensions of brand information value.

Table 3

Kruskal-Wallis Test Results of Content Topic and Brand Information Value

Identification	Count (N=1834)	Percentage	Mean Rank		
			BIV1	BIV2	BIV3
T1	208	11 %	1081.85	1018.79	1084.19
T2	627	34 %	983.24	892.48	1022.88
T3	251	14 %	553.44	612.94	682.51
T4	475	26 %	1027.66	1115.4	933.23
T5	39	2 %	638.1	622.72	692.87
T6	164	9 %	719.7	782.63	730.1
T7	70	4 %	1017.24	1070.09	778.35
Kruskal-Wallis H value			205.459	193.138	127.687
Adj.Sig.			0.000***	0.000***	0.000***

Table 4

Kruskal-Wallis H Test Results of Content Topic Sub-Classification and Brand Information Value

Sub-classification	Identification	N	Percentage	H (Mean Rank)		
				BIV1	BIV2	BIV3
Festival greetings	T11	70	3.82 %	2.371	5.796*	3.56
Interaction activities	T12	343	18.70 %	9.027**	7.354**	2.818
Celebrity endorsement	T13	219	11.94 %	79.484***	89.464***	1.129
Knowledge propagation	T14	89	4.85 %	6.934**	33.649***	11.459**
Information collection	T15	17	0.93 %	0.552	0.483	0.008
Fun & interesting	T16	195	10.63 %	33.822***	25.421***	28.523***
Lucky draw	T21	358	19.52 %	114.8***	75.757***	66.46***
Product promotion	T22	891	48.58 %	51.582***	84.558***	60.163***
Sales activity	T23	146	7.96 %	10.141**	3.757	11.128**
Marketing publicity	T24	541	29.50 %	1.681	0.031	6.648*
Joint investment	T25	21	1.15 %	21.44***	19.497***	21.663***
Company profile	T31	204	11.12 %	140.595***	107.843***	77.317***
Product knowledge	T32	77	4.20 %	9.515**	0.993	14.328***
Social responsibility	T33	55	3.00 %	9.493**	4.189*	0.323
Technical strength	T34	177	9.65 %	33.352***	12.433***	8.492**
Brand Alliance	T35	81	4.42 %	14.533***	3.607	31.034***
Enterprise dynamic	T36	15	0.82 %	0.549	0.004	3.168
Brand story	T37	80	4.36 %	0.564	15.2***	0.479

Kruskal-Wallis H test of media form and brand information value. The test results show that there are significant differences in the rank mean values of reputation value under different communication forms (Adj.Sig. $p < 0.001$),

while the rank mean values of emotion value and relationship value under different media forms are not significant (Adj.Sig. $p > 0.05$), as shown in Table 5.

Table 5

Kruskal-Wallis Test Results of Media Form and Brand Information Value

	Mean Rank			Testing Statistic	
	M1 (N=208)	M2 (N=627)	M3(N=251)	Kruskal-Wallis Test H value	Adj.Sig. (P value)
BIV1	805.52	914.02	939.81	2.694	0.26
BIV2	628.56	900.84	999.86	24.918	0.000***
BIV3	758.73	928.64	897.29	4.999	0.082

Mann-Whitney U test of manner (brand response) and brand information value. The brand information value level of the Brand response group and no brand response group

are significant (Adj.Sig. $p < 0.001$), as shown in Table 6. It can be seen brand response plays an important role in promoting the brand information value.

Table 6

Mann-Whitney U Test of Manner and Brand Information Value

	Mean Rank		U value	Adj.Sig. (P value)
	Brand response	No brand response		
BIV1	846.06	1102.97	-9.317	0.000***
BIV2	864.85	1054.19	-6.974	0.000***
BIV3	832.01	1139.45	-11.141	0.000***

Correlation Analysis of Continuous Variables

Spearman correlation coefficient was used to verify the correlation between continuous variables. The results showed that Quantity (C1, C2), Quality (C3), and Relevance (C4) all have significant correlation with Brand Information Value ($p < 0.01$), which can be entered into regression analysis, as shown in Table 7.

Table 7

Correlation Analysis Result

	C1	C2	C3	C4
BIV1	0.314**	-0.067**	0.062**	0.298**
BIV2	0.111**	0.088**	0.164**	0.300**
BIV3	0.512**	-0.136**	0.017*	0.118**

** Significant at level 0.01 (two-tailed)

Multiple Linear Regression Analysis

To test the hypotheses, this study uses multiple linear regression for further analysis. Since regression analysis is based on the minimization of the square error, some extreme observations can have a disproportionate effect on parameter estimates. Given that the variables associated with the data set have a strong skew distribution (i.e., the absolute values of skew and kurtosis are greater than 2), followed previous research (McShane *et al.*, 2019; Schultz, 2017) and used the natural logarithmic transformation of relevant variables, i.e., $\ln(C1+1)$, $\ln(C3+1)$, $\ln(C4+1)$, $\ln(BIV1+1)$, $\ln(BIV2+1)$, $\ln(BIV3+1)$ to achieve normality and homoscedasticity. Here, 1 was added to avoid taking logs of zero. The statistical analysis results are reported as follows. For the categorical variable, code content topic to six dummy variables, i.e., T1 (community-building topic), T2 (action-encouraging topic), T3 (information-providing topic), T4 (Community-Action combined topic), T5 (Community-Information combined topic), T6 (Action-Information combined topic) and T7 (Community-Action-Information combined topic). Code media form to two dummy variables, i.e., M1 (low modality), and M2 (moderate modality), and M3 (high modality). For the following research analysis, T3 and M1 are used as the baseline respectively. The standardized estimation results are presented in Table 8.

Table 8

Multiple Linear Regression Results

Variables		Ln(BIV1+1)			Ln(BIV2+1)			Ln(BIV3+1)		
		B	t	Sig.	B	t	Sig.	B	t	Sig.
Content Topic	(T3)	0			0			0		
	T1	1.586	10.654	0.000***	1.054	7.775	0.000***	0.923	7.372	0.000***
	T2	0.495	4.093	0.000***	0.505	4.581	0.000***	-0.123	-1.204	0.229
	T4	1.37	10.989	0.000***	1.167	10.282	0.000***	0.677	6.452	0.000***
	T5	0.328	1.277	0.202	-0.107	-0.458	0.647	-0.014	-0.063	0.949
	T6	0.392	2.602	0.009**	0.381	2.775	0.006**	0.001	0.007	0.995
	T7	1.656	8.104	0.000***	1.226	6.587	0.000***	0.513	2.985	0.003**
Media form	(M1)	0			0			0		
	M2	0.119	0.507	0.612	0.654	3.049	0.002**	0.114	0.574	0.566
	M3	0.428	1.754	0.048*	1.02	4.592	0.000***	0.239	1.163	0.245
Conversation principle	Quantity									
	C1	0.449	25.531	0.000***	0.181	11.33	0.000***	0.551	37.293	0.000***
	$\ln(C2+1)$	0.603	1.895	0.058	-0.613	-2.115	0.035*	0.399	1.49	0.137
	$\ln(C2+1)^2$	-0.07	-1.888	0.059	0.088	2.63	0.009**	-0.05	-1.623	0.105
	Quality									
	$\ln(C3+1)$	0.386	4.423	0.000***	0.253	3.182	0.001**	0.475	6.463	0.000***
	Relevant									
$\ln(C4+1)$	0.543	15.707	0.000***	0.361	11.472	0.000***	0.288	9.918	0.000***	
Manner										
C5	0.492	6.106	0.000***	0.254	3.455	0.001**	0.466	6.868	0.000***	
(Cons.)		-1.956	-2.705	0.007**	-0.363	-0.551	0.582	-0.296	-0.486	0.627
F-value		101.454***			45.465***			141.254***		
R ²		0.438			0.259			0.521		
Adjusted R ²		0.434			0.254			0.517		
N		1834			1834			1834		

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

As a whole, the model for emotion value is significant ($F = 101.454$, $p < 0.001$) and explains the variance of the dependent variable well ($R^2 = 43.8\%$, $\text{Adj. } R^2 = 43.4\%$); the model for reputation value is significant ($F = 45.465$, $p < 0.001$) and explains the variance of the dependent variable

well ($R^2 = 25.9\%$, $\text{Adj. } R^2 = 25.4\%$); the model for relationship value is significant ($F = 141.254$, $p < 0.001$) and explains the variance of the dependent variable well ($R^2 = 52.1\%$, $\text{Adj. } R^2 = 51.7\%$).

Effect of content topic on emotion value. The effect of content containing a community-building topic (T1), action-encouraging topic (T2), Community-Action combined topic (T4), Action-Information combined topic (T6), or Community-Action-Information combined topic (T7) is significantly different from that of the information-providing topic (T3) on emotion value ($p < 0.01$). No significant difference between Community-Information combined topic (T5) and information-providing topic (T3) ($p > 0.05$). Specifically, the emotion value of the content containing community-building topic has the largest difference from the information-providing topic ($B = 1.586, 1.37, 1.656$). Content containing a community-building topic is more likely to enable consumers to convey positive emotion when engaging in brand-related content, followed by content containing the action-encouraging topics.

Effect of content topic on reputation value. The effect of content containing a community-building topic (T1), action-encouraging topic (T2), Community-Action combined topic (T4), Action-Information combined topic (T6), or Community-Action-Information combined topic (T7) is significantly different from that of the information-providing topic (T3) on reputation value ($p < 0.01$). No significant difference between Community-Information combined topic (T5) and information-providing topic (T3) ($p > 0.05$). Specifically, the reputation value of the content containing a community-building topic has the largest difference from the information-providing topic ($B = 1.054, 1.167, 1.226$). Content containing a community-building topic is more likely to enable consumers to convey a positive reputation when engaging in brand-related content, followed by content containing action-encouraging topics.

Effect of content topic on relationship value. The effect of content contains community-building topic (T1), Community-Action combined topic (T4), or Community-Action-Information combined topic (T7) is significantly different from that of contains information-providing topic (T3) on relationship value ($p < 0.001$) and no significantly difference between action-encouraging topic (T2), Community-Information combined topic (T5), or Action-Information combined topic (T6) and information-providing topics (T3) ($p > 0.05$). Specifically, the relationship value of content containing only a community-building topic has the largest difference from the information-providing topics ($B = 0.923$). Content containing only a community-building topic is more likely to enable consumers to convey positive relationships when engaging in brand-related content, followed by the content contains combined topic including community-building and action-encouraging.

Therefore, *H1a*, and *H1b* are fully supported, and *H1c* is partially supported.

Effect of the media form on emotion value. The effect of media form of high modality (M3) is significantly different from that of low modality (M1) on emotion value ($p < 0.05$), but no significant difference between moderate modality (M2) and low modality (M1) ($p > 0.05$). Specifically, the media form of high modality is more likely to enable consumers to convey positive emotion when engage in brand-related content.

Effect of media form on reputation value. There are significant differences in the effect among the three media forms ($p < 0.01$) on reputation value. Specifically, the

reputation value of the high modality (M3) has the largest difference from the low modality (M1) ($B = 1.02$). The communication form of high modality is more likely to enable consumers to convey a positive reputation when engaging in brand-related content, followed by the moderate modality.

Effect of media form on relationship value. No significant differences in the effect among the three modalities of media form on relationship value ($p > 0.05$).

Therefore, high modality media form may lead to the highest effect on emotion value and reputation value, and modality media form is more significant than the low modality only for reputation value. What needs to be noticed is that not much difference between media form to relationship value. Thus, *H2a*, *H2b*, and *H2c* are partially supported.

Effect of conversation principle on brand information value. The effect of posting frequency (C1), post readability (C3), post relevance (C4), and brand response (C5) have a significant positive impact on brand information value ($p < 0.01$) on brand information value. Regarding the effect of post length (C2) on brand information value, the result shows that as the post length increases, the reputation value first rises and then declines. ($p < 0.05$). However, no significant difference between post length (C2) on emotion value and relationship value. Thus, *H3a*, *H3c*, *H3d*, and *H3e* are fully supported, and *H3b* is partially supported.

In summary, the test results of the research hypothesis are shown in Table 9.

Table 9

Test Results of Research Hypothesis

Hypothesis	Emotion value	Reputation value	Relationship value
H1a	Support	Support	Support
H1b	Support	Support	Partial Support
H1c	Support	Support	Partial Support
H2a	Support	Support	Not Support
H2b	Partial Support	Support	Not Support
H2c	Partial Support	Support	Not Support
H3a	Support	Support	Support
H3b	Not Support	Support	Not Support
H3c	Support	Support	Support
H3d	Support	Support	Support
H3e	Support	Support	Support

Discussion and Managerial Implications

It is found that marketer-generated content has been regarded as a critical factor in helping firms maintain competitive advantages in volatile markets by enhancing consumer engagement and increasing revenue and consumer retention (Meire *et al.*, 2019; Weiger *et al.*, 2019). The content contains how community-building, action-encouraging, and information-providing content affect emotion, reputation, and relationship value in different degrees. Posts with community-building and action-encouraging generate higher levels of brand information value than those with informational content, which aligns with the research results of Estrella-Ramón *et al.* (2019). Moreover, content containing community-building has the greatest effects on brand information value. This is because

content with relationship-building is more effective in capturing user attention and evoking emotional resonance, which can strengthen users' emotional connection with the brand. Therefore, such content is more likely to promote potentially emotional and engaging brand experiences and create a relationship with consumers (Lou *et al.*, 2019). Effects of action-encouraging content are better than information-providing, probably because action-encouraging content tends to trigger users' psychological motives and interest demands and spur positive reactions and sharing. When users think this content is consistent with their needs, they generate positive emotional responses and increase their interest and favorable impression of the brand. As a result, when users develop a favorable impression of the brand, they are more likely to share information related to the brand, which contributes to forming a positive brand reputation. Content including action-encouraging has a lower impact on brand information value than community-building, this is partially different from Yang and Lan's (2014) study on the influence of micro-blogging brands. It found that the average number of retransmissions and comments was highest for action-led microblogs, followed by community-building information. This may be because action-led topics can mobilize behavior and gather a large amount of brand popularity in a short time, while relationship-building topics are more likely to trigger a stronger emotional response from consumers, the recognition of the brand, and the establishment and maintenance of relationships. The information-providing topic has the relatively weakest effect on both brand influence and information value enhancement, but in this study, the combination of information-providing with community-building or action-encouraging has a better impact.

The following are the management implications from the above discussion:

Brand accounts should publish content containing community-building topics such as festival greetings, interaction activities, celebrity endorsements, and fun to meet consumers' emotional and entertainment needs, mobilize consumer behavior, and increase brand information value. When brand accounts publish promotional activity content such as lucky draws, product promotions, and joint investments, they should append like, comment, share, prize draws, and other action-oriented messages to encourage users to take action. The brands actively convey their values and notions in this content, stimulating users' attention willingness to engage, and purchase intention. This approach helps build users' recognition and trust in the brand and foster a positive brand reputation, ultimately leading to increased brand exposure and attracting more potential customers. When conveying company and brand information such as company profile, product knowledge, social responsibility, and technical strength through the brand account, the marketer should post combining with community-building and action-guiding topics to enhance the value effect of brand information and alter consumers' brand perception and connection in the long term.

Research indicates that users respond differently to different brand information communicating media forms. High-modality media forms can facilitate information transfer and memory retention, improve advertisement recall (Schmitt *et al.*, 1993), enhance post comments (Sabate *et al.*,

2014), and attract and evocative positive emotion (Sreejesh *et al.*, 2020). According to empirical results, high modality media form has the greatest impact on emotion and reputation value, moderate modality media form has a lower impact only on emotion and reputation value than high modality, and low modality media form has the lowest impact only on reputation value. There is no significant difference among the three forms. Thus, videos are the only media form with a direct positive influence on consumer-brand comments; some empirical results meet the study of Dhaoui and Webster (2021). As seen above, the effect of media form on brand information value is more complex. This may be because videos can trigger strong emotional resonance among users in a short time through vivid images, sounds, and motions, eliciting emotions such as joy and surprise, thus enhancing users' emotional connection with the brand.

The management implications of the above discussion are summarized as follows:

Well-crafted videos can showcase a brand's ideals, product characteristics, and corporate culture, shaping a unique brand image. Brand accounts should give priority to posting content with high-modality forms such as videos and try to use media forms such as videos and images to enhance the user's emotion and reputation value. Since communication forms will not significantly increase the relationship value, marketers need to focus more on factors such as content topics and conversation principles to strengthen the relationship.

Our research also demonstrates the significant role of the five factors of the conversation principle in enhancing brand information value. Specifically, factors such as posting frequency, readability, and relevance, as well as brand response, affect positively brand information value. These findings align with previous research conducted by Pancer *et al.* (2019), Dhaoui and Webster (2021), as well as Duan and Cui (2022). The effect of post length on reputation value first increases and then decreases. However, post length does not impact significantly emotional and relational value. A possible explanation is that when the post length is moderate, it can provide sufficient information while maintaining readers' interest, thus facilitating brand relationships. However, when the post is excessively long, readers may lose patience and impress negatively on the brand. This psychological change may reduce consumer engagement. This effect was not observed in emotional value and brand reputation, partially aligning with the findings of Li and Zheng (2021). User emotions and brand reputation are more influenced by post content, images, and videos than the length of the post itself.

In summary, the above discussion has the following management implications:

First, brand accounts should adhere to the conversation principle when publishing posts. Specifically, an appropriate posting frequency can maintain users' attention on the brand and prevent them from losing interest due to a long term lack of updates. Brand accounts can trigger emotional resonance among users by regularly publishing content related to the brand. Second, excessively long posts may make readers feel agitated or bored, affecting their emotional state. Brands should select an appropriate post length based on the target audiences' preferences and behavioral habits to ensure effective information delivery

and the establishment of a strong brand relationship. Although the length of a post doesn't directly affect the user's emotions or brand reputation, it will affect them indirectly by readers' overall perception and reading experience of the post. Furthermore, readability is also a crucial factor to consider. Brands should employ concise and straightforward language with clear formatting to improve the readability of their posts and ensure that users can effortlessly access the desired information and enjoy a pleasant reading experience. Meanwhile, brands should thoroughly understand user needs and market trends and publish posts relevant to users' interests, demands, or daily life scenarios. Finally, brands should attach importance to replying to user comments and providing timely and sincere feedback on users' opinions and needs to establish and maintain a favorable brand relationship. Because consumers will feel valued and respected, thus enhancing their satisfaction with the brand. When users perceive the brand's concern and understanding, they are more likely to become loyal and long-term supporters.

Conclusion, Limitations, and Future Work

In recent years, academia and management practice have demonstrated the importance of content marketing and continue to explore how to improve content marketing effectiveness. The interactive characteristics of social media change consumers from passive observers to active participants, which increases the difficulty of brand exploration and the discernment of characteristics and brand behavior, promoting information value. An extended 5W conceptual framework of content topic, media forms, and conversation principle is constructed to enhance the brand's understanding of social media brand information value. The non-parametric test and multiple linear regression methods are used based on Sina Weibo to explore the relationship and intensity of communication and conversation on brand information value.

This study is expected to provide a meaningful theoretical reference for academic researchers. First, this study puts forward the online platform brand information value evaluation dimension based on CBBE theory, which enriches the knowledge scope and theoretical boundary of the brand value research field. It also applies big data from the online platform and objectively captures the relationship between the driving factors and brand information value. This can provide ideas and a research basis for subsequent studies related to online brand value. Second, most studies related to factors that influence social media brand communication effects focus on post types and post features,

while relatively few studies combine conversational factors. This study introduces the perspective of conversation along with media forms as indicators of communication channels. It effectively expands the research perspectives on communication elements and enriches the conceptual framework of brand information value. The research combines the characteristics of social media, selects appropriate indicators of communication elements, and validates the effectiveness of these elements in influencing brand information value based on the 5W framework. This provides a reference for multi-faceted research on brand communication effectiveness and assists in identifying and testing the decisive features of brand accounts' marketing performance. Third, this study adopts various approaches in examining the effect of content topics on brand information value and discusses in detail the factors and degree of influence on brand information value by using fusion methods of non-parametric testing and multiple linear regression. It also classifies content topics into totally seven single and combination topics and verifies the importance of combination topics while brands are willing to post information-providing topics.

Nevertheless, there are also some limitations involved in this study. First, this paper only considers the communication and conversation characteristics of brand marketers and extends and compares the disparate impact of different accounts (i.e., consumers, stakeholders, or influencers) on brand information value in future research. Second, when brands focus on communication media, they may need to further discuss more complex underlying factors. For instance, the consistency between the images, videos, and text could be one of the potential factors. Future research will also emphasize the acquisition of image and video content, as well as the impact of their consistency with text on brand information value. Third, measures for the conversation principle are quantitative surrogates. It is not the direct measure of these constructs. Measuring the constructs directly can provide richer information and dimensional knowledge about the constructs. The indicator selection of the conversation principle is relatively limited for each conversation principle. It is necessary to extend them according to the progress of the literature and the actual situation to provide a broader and more practical research idea for related studies. In addition, this study only uses Sina Weibo where the users are mostly Chinese as the sample due to the limitations of data acquisition and network environment. Whether the conclusions drawn from this study are consistent with global social media platforms (e.g., Facebook, Twitter) needs to be studied.

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