



Can consumers be persuaded on brand microblogs? An empirical study



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ABSTRACT

Building upon the persuasion theory in the social psychology literature, this study investigates how companies can use microblogging services to influence consumers' participation and brand loyalty. We develop and empirically test our research model using an online survey in China. Our findings show that persuasion factors, including information quality, perceived similarity, and source credibility, increase community commitment. Perceived similarity and source credibility exhibit bias effects on information quality. Community commitment affects participation and brand loyalty, which is also influenced by participation. We expect that this research can contribute to the existing literature and provide marketers with important practical suggestions.

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1. Introduction

Concurrent with the prevalence of social media, microblogging services have become increasingly popular in enabling users to push short messages and follow the communications of others on the Internet. A recent report shows that Twitter, the global microblogging service, has become the most predominant social media site (other sites included Facebook, YouTube, and Corporate blogs) adopted by the top 100 Fortune Global 500 Companies [1]. Many companies have begun to adopt these services to create brand microblogs and harness their marketing potential [2]. On the other hand, companies often vary in their performances in this context. For instance, Brandwatch monitored 253 popular global brands and found that 69% of them use Twitter as a channel for both broadcasting and engagement, whereas 25% rarely have consumer engagement [3]. On the basis of engagement metrics such as the numbers of comments and retweets, another report ranked the performance of 98 fast-moving consumer goods brands on Facebook and Twitter and found that IRN-BRU ranked the highest and Uncle Ben's the lowest [4]. The varied performances raise emerging concerns about how a company can better engage with brand followers (e.g., encourage followers to participate) and

further influence them (e.g., transform general followers into loyal consumers).

Prior empirical research showed that participation and brand loyalty are two critical concerns in understanding the sustainability and influence of online brand communities [5,6]. A successful brand community is expected to have active engagement from users and influence them to become more loyal toward the brand [7–9]. Accordingly, in this study, we attempt to understand *how companies can use brand microblogs to influence followers' participation and subsequently to influence their brand loyalty*. We refer to *participation* as the likelihood that followers will (1) carefully read messages posted by companies, (2) forward the messages to their own network of followers, and (3) comment on these messages [10–12]. According to Jang et al.'s [13] definition, we refer to *brand loyalty* as the extent to which followers are willing to purchase the products of the brands and further recommend them to others.

We believe that it is important and meaningful to examine the two dependent variables in this context. A key difference between brand microblogs and traditional brand communities (i.e., in traditional online forums) is that brand microblogs are embedded in existing social networks [14]. They can be created by companies with lower costs and find it easier to attain a higher membership (e.g., millions of users can simply “follow” and become a community member) [15]. More importantly, brand microblogs provide significant opportunities for companies to take an active role in initiating *company–consumer* interactions to build consumer–brand relationships [16]. In contrast, traditional brand

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communities may focus more on *consumer–consumer* interactions, even for those hosted by companies [17]. Thus, prior research findings on traditional brand communities may not be fully applicable in understanding why consumers want to participate and establish brand loyalty in microblogs. In this new context, companies will need to apply active managerial interventions that can attract and influence followers. For instance, they may consider what kinds of information should be posted and how to promote their products/brands in their microblogs. The current literature provides little empirical evidence to understand the determinants of participation and brand loyalty in brand microblogs. Much remains unclear regarding how companies can achieve the two objectives. Therefore, to bring insights into the new context of brand microblogs, this study draws upon the persuasion theory, more specifically the heuristic-systematic model (HSM), from the social psychology literature. We propose that companies should try to influence or “persuade” consumers to participate in their brand microblogs and further develop consumers’ brand loyalty. We build and empirically test a research model to show how several important persuasion factors can increase participation and brand loyalty in this context.

We expect that this research can contribute to the extant literature in several regards. First, this study extends prior research on microblogs by highlighting the cognitive process (i.e., persuasion process) of consumers’ behaviors in brand microblogs. Second, we adopt persuasion theories to identify the antecedents of community commitment, which further leads to consumers’ participation and brand loyalty in brand microblogs. Among the persuasion factors, we show that perceived similarity has the strongest impact. Perceived similarity and source credibility are also found to have bias effects on information quality. The findings of this new theoretical perspective contribute to our understanding about how to deal with people’s participation and loyalty behaviors in brand microblogs. Finally, we add to the extant literature on brand communities. Compared to traditional brand communities, brand microblogs are involved with more company–consumer interactions. We therefore provide new insights for companies to understand how consumers can develop community commitment, participation, and brand loyalty in this new context.

We organize the remainder of this paper as follows. We present the theoretical background and hypothesis development in the next two sections. Subsequently, we empirically validate our research model through a survey of users of an existing microblogging service. Finally, we conclude this study with discussions of implications for both research and practice as well as limitations and opportunities for future research.

2. Theoretical background

In this section, we review the recent theoretical and empirical literature to understand the marketing power of microblogging services, online brand communities, community commitment, participation, brand loyalty, and theories of persuasive communication.

2.1. Marketing power of microblogging services

Understanding how to obtain business value through microblogging services has become an important concern for marketers. In the recent literature, scholars have shown great effort in analyzing online content and activities on microblogging services to provide marketing insights for companies. For instance, after examining over half a million microblogging messages with the word “iPad,” Berinato and Clark [18] provided six practical suggestions to help marketers look for value in consumers’ conversations. Burton and Soboleva [19] noted that there is a lack

of theory for companies to develop effective strategies for using such services. They analyzed 12 brand microblogs and concluded that these microblogs may be a unique marketing channel, with a mix of one-to-many and one-to-one communications. Jansen et al. [2] analyzed over 150,000 messages and contended that brand microblogs can be an online tool for effective electronic word-of-mouth (eWOM) communication. Zhang et al. [20] further adopted the theoretical perspective that marketing and media materials may be important drivers for eWOM communication. They further analyzed a large number of microblogging messages to show the influence of business engagement (e.g., eWOM from businesses) on consumer engagement (e.g., eWOM from consumers). Malhotra et al. [21] scrutinized many messages from leading companies to understand how to increase the odds of message forwarding. They concluded that it would be better for companies to adopt microblogging services for building brands rather than promoting new product offerings. Zadeh and Sharda [22] examined crowd engagement activities in brand microblogs. They showed that companies can use the number of followers and time to predict brand post popularity. Last but not the least, Ma et al. [23] analyzed microblogging messages from a Fortune 500 company. They examined compliments and complaints from consumers and service interventions from the company, thus enriching the understanding of how to manage better consumer relationships.

Although a burgeoning stream of research has examined brand messages and user activities to uncover the marketing power of microblogging services, only a few recent studies approached this topic from the consumers’ perspective and delved into the cognitive process of their decision-making with new theoretical bases. For instance, Liang et al. [24] adopted the social support theory to show that social support, website quality, and relationship quality are important determinants of consumers’ social commerce intention and continuance intention on microblogging services. Li and Li [25] referred to the social response theory and investigated how consumers evaluate brands differently on these services. Zhang et al. [8] applied the stimulus–organism–response perspective to understand the process through which environmental stimuli on these services influence consumers’ social commerce intention. We believe that further studies in this area are needed to provide additional theoretical insights into brand microblogs.

2.2. Online brand communities

Online communities, also known as virtual communities, are social aggregations emerging from a group of users on the basis of their personal relationships on the Internet [26]. Hagel and Armstrong defined online communities as computer-mediated environments, where community members can generate and share content with each other [27]. As a form of online communities, brand communities generally refer to a set of online users who share certain social relationships in cyberspace and voluntarily communicate with others for their shared interest in some brands or products [28]. Understanding brand communities can be beneficial because they may provide marketers with opportunities to obtain valuable ideas and develop successful relationships with consumers [5,13]. Consumers’ conversations within these communities may contain a considerable amount of information regarding their demographic characteristics, purchase concerns, and behavioral patterns [29] as well as their needs and product preferences [30].

Prior research indicates that there are different types of brand communities, such that some may be hosted by consumers, while others may be hosted by companies [13]. Brand communities can also be grouped into three basic structures: pool, web, and hub affiliations [31]. Pool affiliation indicates that community

members have strong relations regarding their shared activity and values and weak personal relations with one another (e.g., appleenthusiast.com). Web affiliation shows that members have strong personal relationships with similar others (e.g., Facebook). Finally, hub affiliation describes the situation where members are closely connected to a focal figure and loosely connected to others (e.g., oprah.com). Despite the different governances and structures, consumer–consumer interactions are usually the research focus in traditional brand communities (i.e., traditional forums). Wiertz and de Ruyter [17] posited that many companies originally see company-hosted forums as additional service support platforms. In fact, they found that consumers exchange information with each other frequently in these forums and take over the service support functions traditionally offered by the companies. Fournier and Lee [31] noted that a hybrid method of governance is likely to take place in traditional brand communities. They explained that new members can be initially attracted to a hub affiliation community (e.g., new members admire the same celebrity) and then develop shared values and turn the community into a pool affiliation. The emphasis on interactions among consumers has also been shown in a number of empirical studies. For example, Hur et al. [32] investigated consumers' trust toward members of an online brand community. Kuo and Feng [33] identified several community interaction characteristics to explain consumer–consumer interactions.

Along with the recent prevalence of Web 2.0 technologies, brand communities have been appearing on many social media platforms, such as social networking sites and microblogging sites. In the current research context, brand microblogs emerge as a new form of brand communities that are initiated by companies on microblogging services (e.g., Google's microblog on Twitter). These microblogs appear to be hub affiliations, where brand followers primarily interact with the focal brands. A successful brand microblog is likely to allow the company to lead conversations, deliver messages effectively to consumers, and monitor and reply their comments [2,34]. This is different from a traditional brand community where the company is much less involved. In addition, given the embedded social networks, information exchanges in microblogs are considered faster, more immediate, and scalable [2]. Compared with brand communities in online forums, brand communities within social networks consist of users who are not only followers of the brands but also friends of other online users [14]. Thus, users may wish to follow brands with similarities to display their self-concept. Further, users can follow many different brands with little effort, which can make it challenging for a brand to obtain committed followers [35]. Prior research proposes a framework to classify different social media, where microblogs are described as having a high level of self-presentation and a low level of media richness [36,37]. In other words, brands in microblogs may show more emphasis on presenting themselves online, making it important to demonstrate their own characteristics (e.g., the credibility of a brand). They may be less inclined to share various forms of media (e.g., videos and books, which can be shared easily within a forum) and focus more on the quality of information

posted. On the basis of previous studies [2,35,36], we have summarized in Table 1 several key differences among brand communities in microblogs, social networking sites, and traditional forums. We believe that the extant literature on brand communities should be extended because of the distinctive attributes of brand microblogs. More research efforts will be needed to address new concerns in this emerging context.

2.3. Community commitment, participation, and brand loyalty

In the context of online communities, community commitment has frequently been examined in academic studies by many scholars. For instance, research shows that members may develop their commitment and form a favorable attitude toward an online community as they communicate with others [38]. Commitment has also been found to be an important factor in the literature on relationship marketing [39]. It pertains to one's desire to maintain a valued relationship and resist change in the relationship [40,41].

Participation often refers to contributing to certain activities or assignments in organizational studies [42]. From this perspective, some studies employ participation to emphasize community members' posting behavior [43]. However, this definition does not consider the importance of lurking in online communities [44]. Lurking indicates that members merely browse the communities to read messages posted by others. These passive or noninteractive behaviors are the dominant pattern for a majority of members in online communities. According to previous studies [10,12], participation in online communities may further involve activities such as reading threads, forwarding threads, posting replies, and moderating discussions. Similar to these works, the present study employs three key dimensions to capture followers' passive and active participation behaviors in brand microblogs: (1) reading messages posted by companies (passive behavior), (2) forwarding these messages to their personal networks, and (3) commenting on the messages (active behaviors). These dimensions are also consistent with recent studies that analyzed user activities according to the numbers of likes (which can be considered an external indicator of reading behavior), retweets, and replies in brand microblogs [22,45].

Consumers' loyalty generally emphasizes the strong feelings held regarding certain brands or companies [46]. A loyal consumer is often associated with a high tendency to purchase the products of a brand in the future [6]. Hence, loyalty has been long recognized as a key factor for companies' success and sustainability in relationship marketing [47,48]. Researchers further conceptualize brand loyalty with two perspectives: attitudinal and behavioral [5,49,50]. *Attitudinal loyalty* captures consumers' emotional and psychological perspectives of brands, whereas *behavioral loyalty* focuses on purchase or related behavior of consumers. Consistent with previous studies [5,13], this research adopts the behavioral perspective of brand loyalty to examine the extent to which brand followers will purchase products of brands and recommend the brands to others.

Table 1
Brand communities in different social media.

Dimension	Microblogging Site (e.g., Twitter)	Social Networking Site (e.g., Facebook)	Traditional Forum
Self-presentation	High	High	Low
Media richness	Low	High	High
Communication speed	High	High	Low
Number of brands	Many	Many	Few or one
Network structure	Hub affiliation, with explicit social networks	Web affiliation, with explicit social networks	Pool affiliation, with no explicit social networks

2.4. Persuasive communication and related theories

Persuasive communication is an important area in the social psychology literature. It explains the process of individuals' attitude and behavior formation/change [51,52]. Triandis posited that persuasive communication primarily considers "who says what, how, to whom, and with what effect" [53,p. 145]. More specifically, previous research defines persuasive communication as "any message that is intended to shape, reinforce, or change the responses of another, or others" [54,p. 4]. From this perspective, persuasive communication highlights the influence of external information.

Among prior studies on persuasive communication, several persuasion theories have been applied to address how people internalize external information, which then results in *attitude formation or change* [55,56]. To explain persuasion, prior research first delineates three types of activities: response-changing, response-shaping, and response-reinforcing [57]. The *response-changing process* is related to the traditional view of persuasion. It stresses that an individual's response or attitude changes from one state to another. The process may happen suddenly or slowly. The *response-shaping process* emphasizes the development of a new and positive image. It may play an important role when we need to meet new people or objects. The *response-reinforcing process* focuses on keeping or strengthening one's decision. It is often applied in the advertising industry, given that many marketers use advertisements to sustain consumers' loyalty levels [58]. From these perspectives, the response-shaping and response-reinforcing persuasion processes appear most related to attitude formation.

The HSM is one of the prominent persuasion theories in the existing literature [59,60]. HSM further postulates that people can be persuaded through two different processes: systematic and heuristic information processing. *Systematic information processing* suggests that people may be persuaded to form judgments if they spend high-cognitive effort and scrutinize issue-related information. In this case, people will develop perceptions regarding the content of information. *Heuristic information processing* points out that people may also be persuaded if they apply less cognitive effort and use simple decision rules. In this regard, people are likely to develop perceptions about heuristic cues, which are not related to the content of information. Overall, HSM establishes a nomological network to explain the relationship between people's

attitudes and beliefs developed from the two processes [56]. That is, attitudes, which capture whether people are persuaded, are determined by perceptual factors pertaining to the two types of information processing. For instance, prior research shows that people will have favorable attitudes toward brands if brand-related information is perceived to have high quality and comes from credible sources [61].

While HSM discriminates between systematic processing and heuristic processing, it also proposes that the two types of information processing can occur concurrently [56]. The *bias effect* is the major theoretical extension of HSM that explains their interdependence [62]. More specifically, the effect suggests that heuristic processing may produce a bias effect on systematic processing, thus affecting people's attitudes indirectly [63]. This is because heuristic cues may stimulate people to develop inferences and expectations about the content of information [64]. For instance, students may perceive that the advice from a renowned professor is more valid than from an unknown student. In sum, the bias effect highlights a cognitive source of bias from heuristic processing to systematic processing [63].

3. Research model and development of hypotheses

In this study, we view a brand microblog as a hub affiliation, where many followers can interact with a focal brand/company. We propose that the company can adopt the persuasive communication strategy to influence its followers. In this regard, the company (i.e., *who*) may persistently post messages (i.e., *what*) on its microblog (i.e., *how*). Brand followers (i.e., *whom*) can then decide (i.e., *what effect*) whether or how to process these messages and interact with the brand. More specifically, we apply HSM to develop a research model and demonstrate the process of how important persuasion factors may affect followers' participation and brand loyalty in the brand microblog. From previous persuasion studies [65–67], we identify information quality (perception from systematic processing), perceived similarity, and source credibility (perceptions from heuristic processing) as the key persuasion factors. We also identify community commitment as the attitudinal factor in the brand microblog. Following HSM's nomological network of beliefs and attitudes, we hypothesize that the three persuasion factors can influence community commitment. We also propose that perceived similarity and source credibility can demonstrate bias effects on information quality. On

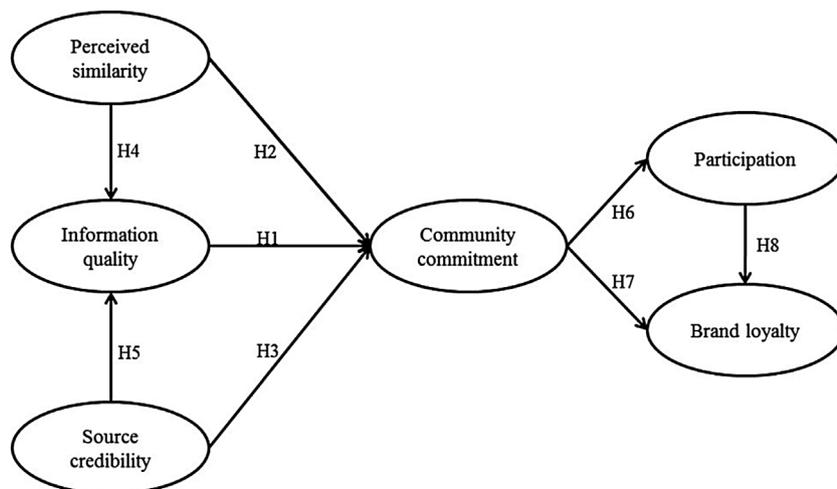


Fig. 1. Research model.

the basis of prior research on traditional brand communities [10,13], we further argue that consumers' community commitment to brand microblogs can influence their participation and brand loyalty. Brand loyalty can further be enhanced by participation. Fig. 1 depicts the research model of this study.

3.1. Persuasion factors

In brand microblogs, the information quality of messages captures brand followers' perceptions derived from *systematic processing*. Perceived similarity and source credibility of brand microblogs demonstrate followers' perceptions developed from *heuristic processing*. Further, we propose that the two types of persuasion factors can predict community commitment, which was regarded as an *attitudinal factor* in prior research [32]. We consider community commitment instead of other attitudinal factors because it is more specific to the new form of brand communities and brand microblogs, and it highlights the affective relationship between consumers and companies. This is consistent with Jang et al.'s [13] work, where it was viewed as the attitudinal factor that reflects members' emotional attachment and feelings of continuing their relationship with a traditional brand community. To form community commitment among followers, companies can utilize response-shaping and response-reinforcing persuasion (in contrast, response-changing persuasion relates to attitude/commitment change) and then harness the influences of both systematic and heuristic processing.

Prior research refers to *information quality* as the aspects of value of information that are provided in traditional brand communities [13]. Consumers view these communities as an important source of information about brands [28]. High-quality information helps consumers to recognize the value of products [68]. In previous studies on persuasion theories, the quality of arguments or information is often used to represent perceptions developed from systematic processing [52,65,67], which will lead to individuals' attitude formation [56,62,69]. Research also shows that community members tend to develop commitment if they receive high-quality information from brand communities [13]. On the basis of these findings, we expect that if followers find a high quality of information in the microblog, then they are more likely to develop positive attitudes and a desire to continue their relationship with the microblog. Thus, we provide the following hypothesis:

H1. Information quality is positively associated with community commitment.

According to Wilson and Sherrell [66], the two characteristics of message sources, namely similarity and credibility, are the major noncontent related cues that pertain to heuristic information processing during persuasive communication. The two source characteristics fit within Kelman's theoretical perspective about the identification and internalization dimensions of source effects [70]. This indicates that people tend to identify with similar and attractive sources rather than dissimilar ones. People are also likely to accept and internalize a message if its source is credible. In this study, we propose that perceived similarity and source credibility can have positive effects on community commitment. This is in line with previous studies, which show that heuristic cues can influence people's attitudes [71] and emotional attachment toward websites [72].

Previous research refers to perceived similarity as the extent to which individuals are similar with regard to certain attributes [73]. These attributes may include their demographic characteristics, likes or dislikes, psychological traits, and experiences [74]. In this research, we focus on the perceived similarity between a brand microblog and its followers. Consistent with Shen's [75] research,

perceived similarity is defined as the extent to which followers find a match regarding the interests and value of the brand microblog. Prior research shows that similar people tend to connect to each other [76]. A high level of perceived similarity is preferable for the development of interpersonal relationships [77]. Smith [78] noted that if buyers perceive similarities with sellers, then their commitment to buyer–seller relationships is likely to increase. Cheung and Lee [79] contended that similar group norms in online communities can enhance members' community commitment. In line with HSM's propositions, we postulate that perceived similarity can affect the attitudinal factor, community commitment. That is, if brand followers perceive a high level of similarity between a brand microblog and themselves, then they are more likely to develop positive attitudes toward the microblog, resulting in strong community commitment:

H2. Perceived similarity is positively associated with community commitment.

Source credibility has been widely studied as a critical heuristic cue in the offline context [59,65,80]. In accord with Chaiken [81], this research defines *source credibility* as brand followers' perceptions regarding the credibility of brand microblogs (i.e., the sources of messages) rather than the content of messages. It considers the trustworthiness and expertise of the sources [60,82]. Kim et al. [72] showed that if consumers perceive a website as a credible source of information, then they are more likely to become emotionally attached to it. In brand microblogs, we thus expect that a credible brand is more likely to attract brand followers and influence them to establish commitment toward the microblog. We hypothesize that brand followers' perceived source credibility of the brand microblog could positively affect their community commitment toward the microblog. We therefore posit.

H3. Source credibility is positively associated with community commitment.

On the basis of the bias effect of HSM, this study further proposes that the two source characteristics, namely perceived similarity and source credibility, may influence information quality in brand microblogs. The bias effect has received empirical support in the social psychology literature [80,83]. Chaiken and Maheswaran [63] contended that source characteristics can trigger the expectations of the probable content validity of information, thus influencing people's final evaluation of the information. A recent study on online consumer reviews also shows that people are inclined to perceive the reviews to be of high quality if they observe that these reviews are from credible others [84]. Likewise, similar people tend to perceive information from others as more useful [73]. They are more likely to establish strong ties, which will assist them to more easily recognize the quality of received information from others and understand it more sufficiently [85]. Bearing these issues in mind, we expect that when followers find that information in a brand microblog is posted from a credible company, instead of from a noncredible one, they tend to develop positive expectations about the quality of the information. Similarly, when followers find that the information is from a company that shares similar values and interests as them, they are more likely to favor such similarities and show a positive cognitive bias in the quality of the information. We therefore propose the following two hypotheses:

H4. Perceived similarity is positively associated with information quality.

H5. Source credibility is positively associated with information quality.



Brand Categories Popular Brand Messages Popular Brands



Fig. 2. (a) Screenshot of the “brand page” on Weibo.com. (b) Screenshot of NBA.com (China) on Weibo.com.

Table 2
List of measures of research constructs.

Construct	Item	Source	
Information quality (IQ)	IQ1	Information from the brand microblog is excellent.	[13]
	IQ2	Information from the brand microblog is rich.	
	IQ3	Information from the brand microblog is new.	
	IQ4	Information from the brand microblog is credible.	
	IQ5	Information from the brand microblog is timely.	
Perceived similarity (PS)	PS1	The company of the brand microblog and I share similar values.	[75]
	PS2	The company of the brand microblog and I share similar interests.	
	PS3	The company of the brand microblog and I share similar preferences.	
Source credibility (SC)	SC1	The company of the brand microblog is knowledgeable.	[65]
	SC2	The company of the brand microblog has high expertise.	
	SC3	The company of the brand microblog is trustworthy.	
	SC4	The company of the brand microblog is reliable.	
Community commitment (CC)	CC1	I am very attached to the brand microblog.	[89]
	CC2	My objectives and those of other followers are alike in the brand microblog.	
	CC3	The interpersonal relationships I have with the brand microblog and its followers mean a lot to me.	
	CC4	If the brand microblog or its followers planned something, I would think of it as something “we” would do rather than something “they” would do.	
	CC5	I see myself as a part of the brand microblog.	
Participation (PA)	PA1	I will read the messages from the brand microblog carefully.	Self-developed
	PA2	I will forward the messages from the brand microblog.	
	PA3	I will comment on the messages from the brand microblog.	
Brand loyalty (BL)	BL1	I will recommend products of the brand to others.	[13]
	BL2	I will purchase products of the brand.	

3.2. Influences of community commitment

Community commitment has been found to be an essential factor that affects members' behaviors [86]. Research into traditional brand communities also shows that commitment acts as a predictor of members' participation [10]. In this study, we similarly view community commitment as the attitudinal factor that shows the extent to which followers form favorable attitudes toward a brand microblog. The influence of community commitment on participation is also consistent with prior theoretical perspectives on the *attitude-behavior* relationship (e.g., the theories of reasoned action and planned behavior). We thus propose that if followers have formed a strong community commitment to the brand microblog, then they will increase their participation level to maintain their relationship with it:

H6. Community commitment is positively associated with participation.

Research contends that when members feel committed to a traditional brand community, they demonstrate a positive attitude toward it [13]. Muniz and O'Guinn [28] posited that traditional brand communities are likely to be associated with stronger commitment than many other online communities. In this sense, members in traditional brand communities may also develop a favorable attitude toward products and brands. In support, Kim et al. [87] found that consumers' community commitment can facilitate their emotional attachment to brands and lead to product purchase behavior. Gounaris and Stathakopoulos [88] and Jang et al. [13] further contended that psychological feelings such as community commitment can increase consumers' likelihood of behavioral loyalty toward brands. Following these perspectives, we hypothesize that followers' community commitment to a brand microblog will influence their brand loyalty, showing a high tendency for product purchase and recommendation behavior:

H7. Community commitment is positively associated with brand loyalty.

3.3. Influence of participation

Existing research has shown that participation in traditional brand communities can influence consumers' brand loyalty [5,6]. A high participation level implies that consumers spend a considerable amount of time in understanding products or brands in the communities. This process enables consumers to develop their attitude and psychological attachment to brands, resulting in a high level of behavioral brand loyalty. Consistent with one another, Algesheimer et al. [89] and Casaló et al. [86] postulated that as consumers participate in traditional brand communities, their ongoing membership will influence their future product purchase of the brand. Following these perspectives, we expect that if brand followers actively participate in a brand microblog, then their behavioral brand loyalty can also be increased. We propose the following hypothesis:

H8. Participation is positively associated with brand loyalty.

4. Methodology

To empirically test our research model, we collected data from an existing microblogging service, Weibo.com, which is owned by the SINA Corporation and is the largest and most popular microblogging service in China. Details of this microblogging service, the measures adopted in this research, and data collection procedures are discussed below.

4.1. Research site

Weibo literally means “microblogging” in Chinese; Weibo.com is a Twitter-like microblogging service in China, established in 2009. By February 2012, SINA [90] reported that over 300 million users had already registered on this microblogging service. To reach such a massive user base, many companies have also created microblog accounts to post product- or brand-related messages. Some companies are currently attracting millions of brand followers on Weibo.com. For instance, Xiaomi, a Chinese mobile

Table 3
Profile of the respondents.

Measure	Item	Frequency	Percent
Gender	Female	134	51.7%
	Male	125	48.3%
Age	<18	26	10.0%
	18–24	156	60.2%
	25–29	55	21.2%
	30–39	19	7.3%
	≥40	3	1.2%
Education	Secondary and high school	41	15.8%
	Diploma or equivalent course	45	17.4%
	University – first degree	144	55.6%
	University – postgraduate degree	29	11.2%
Income (RMB) per month	<2000	150	57.9%
	2000–3999	59	22.8%
	4000–5999	22	8.5%
	6000–7999	10	3.9%
	≥8000	18	6.9%
Product possession	No	84	32.4%
	Yes	175	67.6%
Experience of following the brand	<1 month	34	13.1%
	1–3 months	65	25.1%
	3–6 months	74	28.6%
	6–9 months	36	13.9%
	9–12 months	30	11.6%
	12–18 months	16	6.2%
	>18 months	4	1.5%

phone company, has over 11.5 million followers, whereas NBA.com (China) attracts more than 32.6 million followers.¹ Fig. 2a shows a screenshot of Weibo.com's "brand page," where companies are systematically organized in many different categories. Fig. 2b shows the screenshot of NBA.com (China) on this microblogging service.

4.2. Measures

The constructs in the research model were measured using multiple items. The measures of these constructs are listed in Table 2. As shown in the table, we mainly used previously validated measures from the literature. Only minor modifications were made to fit our research context. To measure participation, we developed three items to capture the extent to which brand followers are likely to read, forward, and comment on messages from the brand microblog on Weibo.com. Participation was thus operationalized with these items as formative indicators. All items of the constructs used seven-point Likert scales, ranging from 1 = strongly disagree to 7 = strongly agree. Before publishing the online questionnaire, the items went through a translation and back-translation process where we translated the instrument from English to Chinese and then back to English. Two English versions were compared, and all inconsistencies were solved to ensure that the Chinese instrument had high translation quality. To further check the face validity of the instrument and the quality of the questionnaire, we conducted a pretest with 21 users through convenience sampling on Weibo.com. Except for some feedback on the wordings of a few questions, the respondents found the questionnaire to be clear, concise, and well understood. Hence, the questionnaire was further improved for the survey study.

4.3. Data collection

In this study, we targeted users who follow brand microblogs on Weibo.com. Because no email list was available to identify these brand followers, we posted comments that contained a URL to the online questionnaire on message pages for many popular brand microblogs. In this regard, a large number of users who followed these brands would become aware of our survey when they read these brand messages. To increase the response rate, we further provided incentives—prepaid mobile phone credit cards—as lucky draw prizes. A total of 259 valid responses were collected for this study. Each respondent was asked to provide the name of the brand microblog that s/he followed most frequently. Then, the respondent answered questions with regard to this brand. Among all the respondents, some brand microblogs were widely followed, which included Lenovo, NBA, Apple, and Samsung. To examine possible nonresponse bias for this study, we compared the composition of the first 50 and last 50 respondents and found no significant differences, indicating that this is unlikely to be a concern. The demographic profile of the respondents is shown in Table 3. As shown below, around half the respondents were female. More than four-fifths of the respondents were aged from 18 to 29, 66.8% had university degrees, and 42.1% had incomes above 2000 RMB (approx. US\$325) per month. Our sample's demographics were similar to a recent survey on Weibo.com [91].

5. Data analysis and results

In this study, we used partial least squares (PLS) path modeling to validate our research model. PLS is a commonly employed method because of its ability to handle both reflective and formative constructs [92]. The basic principle of this method is to ensure that structural relationships are based on a set of measurement instruments with desirable psychometric properties. In particular, we used PLS-Graph 3.0 for the analysis. We followed the guidelines of Hair et al. [93] to analyze the data

¹ The numbers were obtained from Weibo.com on December 6, 2016.

Table 4
Convergent validity of measures.

Construct	Item	Loading	Mean	SD
Information quality (IQ) CR = 0.91, AVE = 0.68	IQ1	0.89	5.18	1.17
	IQ2	0.84	5.36	1.05
	IQ3	0.80	5.37	1.08
	IQ4	0.80	5.34	1.16
	IQ5	0.78	5.51	1.14
Perceived similarity (PS) CR = 0.92, AVE = 0.78	PS1	0.85	4.51	1.14
	PS2	0.92	4.88	1.16
	PS3	0.89	4.78	1.23
Source credibility (SC) CR = 0.92, AVE = 0.75	SC1	0.85	5.36	1.23
	SC2	0.86	5.20	1.33
	SC3	0.88	5.29	1.14
	SC4	0.86	5.23	1.13
Community commitment (CC) CR = 0.90, AVE = 0.66	CC1	0.75	5.14	1.18
	CC2	0.81	4.92	1.24
	CC3	0.86	4.87	1.35
	CC4	0.84	4.73	1.37
	CC5	0.79	4.45	1.40
Brand loyalty (BL) CR = 0.91, AVE = 0.84	BL1	0.92	4.86	1.36
	BL2	0.91	4.95	1.21

through two stages: the measurement model and the structural model.

5.1. Measurement model

The measurement model was assessed by examining the convergent validity and discriminant validity of the constructs. Convergent validity indicates that theoretically related items should have high correlations with each other. The two indices for convergent validity are composite reliability (CR) and average variance extracted (AVE). Results are deemed acceptable if CR > 0.70 and AVE > 0.50 [94]. Table 4 summarizes the factor loadings, CR values, and AVE values for the measures. All the measures in our study demonstrated an acceptable level of convergent validity.

Discriminant validity reflects the extent to which different constructs can be distinguished by respondents as they are conceptualized differently. Following the suggestions of Gefen and Straub [95], we conducted confirmatory factor analysis through PLS and then AVE analysis to examine discriminant validity in this

Table 5
Confirmatory factor analysis with PLS.

	IQ	PS	SC	CC	BL
IQ1	0.89	0.37	0.59	0.47	0.47
IQ2	0.84	0.38	0.46	0.49	0.45
IQ3	0.80	0.38	0.44	0.43	0.37
IQ4	0.80	0.34	0.68	0.42	0.46
IQ5	0.78	0.29	0.53	0.41	0.42
PS1	0.41	0.85	0.40	0.49	0.33
PS2	0.40	0.92	0.39	0.46	0.26
PS3	0.31	0.89	0.33	0.38	0.23
SC1	0.55	0.36	0.85	0.42	0.38
SC2	0.59	0.39	0.86	0.45	0.44
SC3	0.58	0.39	0.88	0.41	0.47
SC4	0.57	0.34	0.86	0.39	0.47
CC1	0.54	0.46	0.56	0.75	0.49
CC2	0.46	0.53	0.43	0.81	0.47
CC3	0.40	0.34	0.36	0.86	0.40
CC4	0.33	0.36	0.27	0.84	0.34
CC5	0.39	0.34	0.27	0.79	0.41
BL1	0.50	0.30	0.48	0.48	0.92
BL2	0.47	0.28	0.46	0.49	0.91

Table 6
Correlations between constructs and square roots of AVE.

	IQ	PS	SC	CC	BL
Information quality (IQ)	0.82				
Perceived similarity (PS)	0.43	0.88			
Source credibility (SC)	0.66	0.43	0.86		
Community commitment (CC)	0.54	0.51	0.49	0.81	
Brand loyalty (BL)	0.53	0.31	0.51	0.53	0.92

Note: Diagonal bold elements are square roots of the average variance extracted.

research. First, as shown in Table 5, we found that items had higher loadings on their corresponding constructs. Second, AVE analysis confirmed that the square root of AVE for each construct was greater than correlations with other constructs [94]. As shown in Table 6, the result was also acceptable. In sum, discriminant validity was sufficient in this study.

In this study, participation was measured as a formative construct. Thus, it would be inappropriate to assess this type of construct with convergent and discriminant validities [96]. According to prior research [97,98], we examined the item weights of participation (as shown in Table 7). The results showed that the weights of PA1 and PA2 were significant, whereas the weight of PA3 was not significant. Prior research posits that commenting behavior (i.e., PA3) is often an important component of participation in online communities [10] and brand microblogs [22]. This suggests that it would be theoretically meaningful to keep PA3, though it had an insignificant weight. To further confirm this point, we followed Cenfetelli and Bassellier's [98] suggestions and examined the multicollinearity of the three items. We found that the variance inflation factors ranged from 1.305 to 2.006, which were far below the problem threshold of 10 [99]. Thus, the items were unlikely to have multicollinearity problems. Therefore, we retained PA3 to avoid modifying the meaning of participation [98].

5.2. Structural model

Given that we collected the data using a self-reported survey, we assessed common method bias before testing the structural model. We followed Podsakoff et al.'s [100] work and ran Harman's single-factor test. Our result showed that no single factor was extracted, and no factors accounted for a majority of the variance. We further ran Liang et al.'s [101] PLS-based common method bias test. This test included a "method" factor in the model. The factor was measured using all items of all constructs. Thus, the variance of each item could be explained by both the method factor and its principal construct. Our result showed that item loadings of the method factor were substantially smaller than those of the principal constructs. The items' averaged variance explained by the method factor was only 2.9%, while the items' averaged variance explained by their principal constructs was 74.2%. From these results, we concluded that common method bias was unlikely to be a critical issue in this study.

Statistically testing the structural model provides the overall explanatory powers, estimated path coefficients, and associated t-values of paths in the research model. First, we considered demographic variables, including gender, age, education, and income, as well as product possession and brand following

Table 7
Item weights for participation.

Items	Weights	t-value	Mean	SD
PA1	0.69	8.96***	4.92	1.15
PA2	0.36	3.51***	4.04	1.32
PA3	0.11	0.94	3.86	1.42

*** p < 0.001.

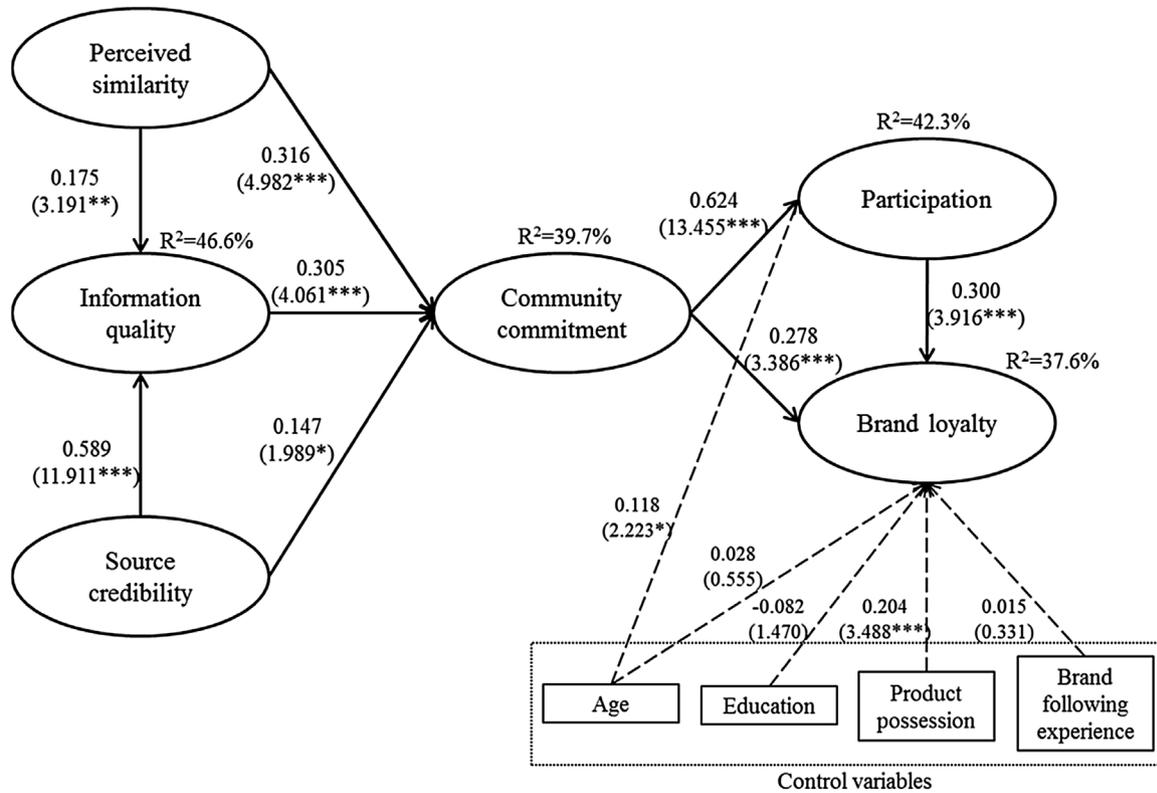


Fig. 3. Results of testing the structural model.
 Note: Dashed lines denote the effects of control variables, *p < 0.05, **p < 0.01, ***p < 0.001.

experience, as possible control variables. Product possession refers to whether brand followers owned products of the brand in question. Brand following experience pertains to how long brand followers had been following the brand on Weibo.com. Then, we examined the influences of these six variables on participation and brand loyalty (without adding other independent variables). The results indicated that age ($\beta = 0.261, t = 2.462, p < 0.05$) had a significant positive impact on participation, whereas age ($\beta = 0.190, t = 2.265, p < 0.05$), education ($\beta = -0.153, t = 2.313, p < 0.05$), product possession ($\beta = 0.305, t = 5.262, p < 0.001$), and brand following experience ($\beta = 0.109, t = 2.075, p < 0.05$) significantly affected brand loyalty. Thus, these significant control variables were included in the following structural model analysis.

Fig. 3 depicts the results of statistical testing of the structural model. The findings demonstrated that information quality ($\beta = 0.305, t = 4.061, p < 0.001$), perceived similarity ($\beta = 0.316, t = 4.982, p < 0.001$), and source credibility ($\beta = 0.147, t = 1.989, p < 0.05$) all significantly predicted community commitment. The bias effects of perceived similarity ($\beta = 0.175, t = 3.191, p < 0.01$) and source credibility ($\beta = 0.589, t = 11.911, p < 0.001$) on information quality were also found to be significant. In addition, community commitment positively influenced participation ($\beta = 0.624, t = 13.455, p < 0.001$) and brand loyalty ($\beta = 0.278, t = 3.386, p < 0.001$). Brand loyalty was further influenced by participation ($\beta = 0.300, t = 3.916, p < 0.001$).² In total, community commitment, participation, and brand loyalty had 39.7%, 42.3%, and 37.6% of their

variances explained, respectively. All hypotheses proposed in this research were supported.

Our results confirmed that community commitment was influenced by the three persuasion factors. Community commitment also affected participation and brand loyalty in the model. As a post hoc analysis, we followed Baron and Kenny's [105] procedure and examined the mediating effects of community commitment. As shown in Table 8, the mediating effects of community commitment were mostly partial, although it fully mediated the effect of perceived similarity on brand loyalty. The findings indicated that all three persuasion factors could directly influence participation. Information quality and source credibility also directly influenced brand loyalty. On the other hand, perceived similarity exhibited only an indirect effect on brand loyalty through the mediating construct of community commitment.

Table 8
 Results of mediating effect tests (coefficient in regressions).

IV	M	DV	IV → DV	IV → M	IV + M → DV		Mediating effect
					IV	M	
IQ	CC	PA	0.475***	0.548***	0.168**	0.549***	Partial
PS	CC	PA	0.476***	0.520***	0.200**	0.538***	Partial
SC	CC	PA	0.485***	0.512***	0.190**	0.547***	Partial
IQ	CC	BL	0.530***	0.546***	0.347***	0.341***	Partial
PS	CC	BL	0.316***	0.521***	0.062	0.497***	Full
SC	CC	BL	0.511***	0.512***	0.334***	0.367***	Partial

Note: IV refers to independent variable; M refers to mediator; DV refers to dependent variable.
 ** p < 0.01.
 *** p < 0.001.

² While many previous studies consider brand loyalty as a reflective construct [13,102,103], a few recent scholars suggest that it may function formatively because it consists of different components (i.e., purchase and recommendation) [104]. On the basis of this concern, we further analyzed our model using brand loyalty with formative items. We found that the results were almost identical to those reported in this paper. All hypotheses were also supported in this regard.

6. Discussion and conclusion

In recent years, microblogging sites have become one of the most popular types of social media for online users. Increasingly more companies now attempt to use these services for building brand microblogs. Thus, they may benefit from consumers' engagement and enhance consumers' brand loyalty. Motivated by the need to understand whether consumers can be influenced/persuaded to participate and develop brand loyalty in brand microblogs, this study develops the theoretical research model and empirically tests it using data collected from brand microblogs.

6.1. Discussion of findings

Our findings suggest that community commitment in brand microblogs increases when consumers process the content of messages (systematic processing) and certain noncontent related cues (heuristic processing). Specifically, consumers become more committed to a brand microblog if it provides high-quality information, shows similar value and preferences to them, and acts as a credible brand. The increased community commitment means that consumers have a favorable feeling and are more emotionally attached to the microblog. This positive attitude toward the microblog is found to positively affect consumers' participation and brand loyalty. The finding is consistent with prior research into traditional brand communities [10,13,87]. It suggests that consumers with high commitment tend to show a high tendency for reading messages carefully, forwarding the messages to their own network of followers, and commenting on the messages. Consumers' loyalty to the brand will be also strengthened as they develop strong community commitment and show a high level of participation in the brand microblog. This highlights the fact that both commitment and participation are key elements for establishing consumers' brand loyalty.

Among the three persuasion factors, we find that perceived similarity and source credibility have positive effects on information quality. This finding confirms the bias effect within the HSM perspective [62]. The empirical evidence of this effect suggests that companies should pay more attention to the two source characteristics as they can alter followers' perceptions about the content of information in brand microblogs. Further, we find that perceived similarity demonstrates the strongest effect on community commitment. This corresponds to the like-me principle [106] and homophily views [76], in that people prefer to interact with and are more influenced by similar others. Overall, we believe that our findings can provide important implications for both researchers and practitioners.

6.2. Implications for theory

The findings of this research can contribute to the existing literature in several regards. First, this study is one of the very few empirical studies that attempt to investigate factors that are important in unleashing the marketing power of microblogging services. We believe that this study can add to the extant literature on microblogs in several regards. For instance, recent studies have shown an interest in analyzing microblogging messages and seeking business value from them [2,18,21]. Notwithstanding, the majority of studies analyze the content of messages and the pattern of their flow to generate suggestions for companies. Thus, these studies lack insights regarding the cognitive process of consumers' behaviors in brand microblogs. In addition, prior research has examined the usage behaviors of microblogging and social networking sites in general [11,107], while little research has been conducted to address followers' behaviors in specific brand microblogs. From these perspectives, the present research

contributes to the literature by revealing the cognitive process of how consumers develop two behavioral factors—participation and brand loyalty—in the context of brand microblogs.

Second, we provide a new and viable theoretical perspective to understand consumers' behaviors in brand microblogs. We draw upon the persuasion theory of HSM from the social psychology literature to show that consumers can be “persuaded” to develop community commitment, which further leads to participation and behavioral brand loyalty. By applying this new perspective, we view brand microblogs as hub affiliations that provide a suitable context for companies to apply the persuasive communication strategy [31]. Our findings show that both systematic processing (i.e., increasing information quality) and heuristic processing activities (i.e., increasing perceived similarity and source credibility) are effective in influencing consumers. As an important theoretical extension of HSM, the bias effect is empirically supported in the current research context. Although this effect has been examined in the social psychology literature [83], it receives little research attention in the information systems (IS) literature [84]. Thus, our findings can provide new insights to IS scholars regarding how the two source characteristics (perceived similarity and source credibility) of brand microblogs can become a cognitive source of bias that enhances consumers' perceived information quality in the microblogs. Further, we use a post hoc analysis to show that community commitment displays mostly partial mediating effects. The findings suggest that high information quality and source credibility can directly increase participation and brand loyalty in brand microblogs. Consumers are also more likely to participate if companies can show similar interests as consumers. These findings appear to be reasonable under the persuasive communication perspective. For instance, although persuasion theories often use attitude formation/change (the formation of community commitment in this study) as the direct consequence, recent research shows that persuasion factors may affect behavioral intention (e.g., purchase intention) directly [84,108]. Mongeau and Stiff [109] pointed out that both attitudinal and behavioral factors can act as direct outcomes of persuasion factors. Overall, our findings demonstrate that persuasive communication appears to be a valid brand-building strategy for companies who attempt to influence consumers' brand loyalty on microblogging services.

Finally, this study extends prior research into traditional brand communities. Scholars in this area have shown that community commitment is important in affecting consumers' participation [10] and brand loyalty [87]. However, given that consumer–consumer interactions dominate in traditional brand communities, the antecedents of community commitment are often related to how a consumer perceives other consumers' information, perceptions, attitudes, or behaviors [33,86,87]. In this regard, prior research yields limited insights for companies to understand the new brand microblog context, where company–consumer interactions may play an important role. A recent study from Labrecque [16] highlighted the importance of consumer–brand relationships and examined how perceived interactivity and openness of a brand in social media (e.g., Twitter) can influence consumers to improve their relationships and loyalty intentions. Zhang et al. [110] similarly investigated how a brand's information fit-to-task and visual appeal in its microblog can lead to consumer participation. This line of emerging studies provide new implications regarding what companies can do to influence consumers in brand microblogs. From this view, our research is expected to bring additional and useful insights to the literature and help to advise companies about the importance of persuasion factors in affecting consumers' community commitment, participation, and brand loyalty. One immediate implication is related to our finding, which perceived that similarity has a stronger effect on community commitment

than the other two persuasion factors. Prior research indicates that people may use microblogging and social networking sites for socialization and become reluctant to engage with brand microblogs [111]. Thus, to overcome this obstacle, companies may consider enhancing similarities with consumers, thus better influencing them to develop commitment and further increase the levels of participation and brand loyalty.

6.3. Implications for practice

We believe that our findings also have important implications for managers. Brand loyalty has been long recognized as one of the core pursuits for marketers. Many companies invest considerable resources in building different brand communities for developing consumers' brand loyalty. The results of the present research show that information quality, perceived similarity, and source credibility are important factors that increase consumers' community commitment to brand microblogs. Increased community commitment will then lead to a high level of participation as well as strong loyalty to the brand. From these findings, we provide several guidelines, which are in line with some of Malhotra et al.'s [21] suggestions for companies to better leverage the benefits of using microblogging services:

- Information quality. Similar to many other brand communities, companies should build their brand microblogs into a useful information source for consumers. High-quality information is critical to attract and maintain relationships with brand followers. On microblogging services, the length of each message is limited. Thus, companies should frequently post concise messages to grab attention from followers and inform them with the most updated information or news about the brand. In addition, companies should also make full use of hyperlinks to redirect followers to richer information sources.
- Perceived similarity. To enhance consumers' community commitment, companies should demonstrate similar attributes to their brand followers. Our findings show that perceived similarity has the strongest impact on community commitment. This implies that companies should pay special attention to the influence of similarity. On the one hand, companies can post messages that are conducive to increase the psychological proximity with existing brand followers. Companies should post messages that can "humanize" their brand, i.e., signal more real and sincere content to show the personality of the brand, rather than simply promote products or services. They may further post topical content in messages to resonate with followers and further identify common interests. On the other hand, companies should work with operators of microblogging services to link, match, or recommend other similar consumers to follow their brand microblogs. This practice provides companies with opportunities for expanding their network of followers, creating more brand awareness, and increasing the number of loyal consumers.
- Source credibility. Being a credible brand in microblogs is an important task for marketers. For company-initiated microblogs, companies have high administrative control over what messages or comments can appear in their microblogs. However, deliberate manipulation of the content, especially that coming from consumers, may greatly hamper the credibility of the brand. Negative rumors in brand microblogs can be harmful because a large audience may notice the information. Instead of deleting rumors, companies should actively respond to negative feedback or events to avoid consumers from further developing distrust or unfavorable feelings toward the brand. In addition, it would be a wise strategy for companies to publish their successful achievements, both self-validated and externally validated, to their

followers. Consequently, consumers may realize that the brand they follow is credible and valuable.

6.4. Limitations and future research

We would like to point out several limitations and possible opportunities for future research. *First*, the generalization of this work may be limited, given that we have only collected data from popular brand microblogs on one existing microblogging service. Thus, future research may extend our findings on other microblogging services (e.g., Twitter) or social media sites (e.g., Facebook) and consider selecting respondents from more diverse brand microblogs/pages. *Second*, this study only includes information quality, perceived similarity, and source credibility as the key persuasion factors for predicting consumers' community commitment in brand microblogs. In addition to community commitment, other variables such as satisfaction with the microblog and peer influence may also affect participation and brand loyalty. Further, brand microblogs not only allow companies to actively interact with consumers but also allow consumers to interact with each other. In this regard, persuasion theories may only help address one important facet (i.e., company–consumer interactions) in this context. Future studies are recommended to incorporate other theoretical perspectives to enrich our understanding of brand building in microblogs. Note that a few previous studies have examined the relative impacts of marketer-generated content (MGC) and user-generated content (UGC) in online environments [112,113]. Goh et al. [114] further showed that UGC may have a relatively stronger impact on consumers' purchases than MGC in a brand community on Facebook. Ding et al. [115] found that product- and social-related UGC and social-related MGC (but not product-related MGC) can promote the growth of a brand community on a social networking site. In this regard, it will also be interesting and worthwhile to investigate whether MGC and UGC exhibit different effects on participation and brand loyalty in brand microblogs. *Third*, this study does not examine the moderating effects of possible factors in the research model, such as ability or motivations for processing information, which are addressed in some studies utilizing persuasion theories (e.g., the elaboration likelihood model) [60]. Thus, future research may extend our research model in this regard. Note that care should be taken because the moderating effects are often observed on the processing of a single piece of information [65], and the results may become less certain for the case of information processing in general [84,108]. *Finally*, this research only examines brand microblogs initiated by companies. Our findings may not be applicable to those microblogs that are initiated by brand-loyal consumers or other independent third parties. Microblogging services provide a free and easy to set-up online environment for users to create any brand communities. Consumers can voluntarily decide to follow any type of brand microblogs depending on their own preferences. Therefore, researchers may further investigate the role of brand microblog types to extend this work in the future.

6.5. Concluding comments

The recent prevailing adoption of microblogging services provides companies with huge opportunities for building their brands and maintaining relationships with consumers. How to promote consumers' participation and develop their brand loyalty through such services are major concerns for many marketers. This study addresses such concerns by revealing the psychological processes through which companies can use brand microblogs to obtain desirable commercial outcomes. We hope that the present research will assist in promoting the call for further research to

provide more comprehensive insights on these issues and further reveal the marketing power of social media.

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