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Building brand loyalty in social commerce: The case of brand microblogs

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Abstract

Social commerce enables companies to promote their brands and products on online social platforms. Companies can, for instance, create brand pages on social networking sites to develop consumer-brand relationships. In such circumstances, how to build consumers' brand loyalty becomes a critical concern. To address this, we draw upon the relationship quality perspective to suggest that brand loyalty is primarily determined by relationship quality, which is further influenced by self-congruence (i.e., the self factor), social norms (i.e., the social factor), information quality and interactivity (i.e., characteristics of brand pages). To test our model, we conduct an empirical survey on companies' brand microblogs. We find that all proposed hypotheses are supported. Interestingly, the self factor rather than other factors was found to have the strongest impact in the model. In addition to its noteworthy implications for practitioners, we believe that this study provides important theoretical insights into understanding how to build brand loyalty in social commerce.

Keywords: Social commerce, Brand loyalty, Relationship quality, Social networking site, Microblog

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1. Introduction

In recent years, social commerce has emerged as an important arena of electronic commerce (e-commerce). The concept of social commerce refers to any business activities that are mediated by social media or social networking sites (Curty and Zhang, 2013). To embrace social commerce, a primary online practice for many companies is to establish an identity, also known as a company's brand page, on social networking sites such as Facebook or Twitter (Zadeh and Sharda, 2014). In fact, Fortune 500 companies have shown increasing interest in using Facebook, Twitter, blogs, and self-hosted online communities to enable interactions with consumers (Culnan et al., 2010). A recent report by Barnes and Lescault (2014) highlighted that 83% of Fortune 500 companies have already created brand microblogs on Twitter, and 80% have Facebook brand pages.

For companies, creating a brand page on a social networking site is merely a step towards engaging in social commerce. However, much still remains unknown regarding how to achieve success in this emerging context (Zhang et al., 2015). Recent studies have shown a growing interest in some important dependent variables of social commerce. For instance, Liang et al. (2011) developed the concept of social commerce intention. They referred to it as the degree to which online users are likely to receive and share commercial, shopping, or product information on social networking sites. Hajli (2014) followed the same direction and investigated whether social support and relationship quality positively affected social commerce intention on Facebook. Similarly, Zhang et al. (2014) contended that social commerce intention may be influenced by technological environments and virtual consumer experiences. Another line of research emphasizes consumers' purchase behavior stimulated by social networking sites. Wang and Chang (2013) conducted an experiment on Facebook and showed that tie strength and perceived diagnosticity of recommendations affected consumers' decisions to buy recommended products. Ng

(2013) examined purchase intention by considering the mediating effect of trust on social networking sites and the moderating effect of culture. Finally, Kim and Park (2013) found that the characteristics of social commerce firms influenced consumers' trust in firms, which in turn affected purchase intention.

Whereas the abovementioned studies provided some valuable insights into consumer behavior in social commerce, a largely uninvestigated dependent variable is consumers' brand loyalty (Laroche et al., 2013), and brand loyalty is indeed a critical concern in the extant literature (Oliver, 1999). Similar to many previous studies (e.g., Casaló et al., 2007; Chaudhuri and Holbrook, 2001; Jang et al., 2008; Porter and Donthu, 2008), this research defines *brand loyalty* from a behavioral perspective. We refer to it as the extent to which consumers will *repurchase* products of a brand and *recommend* the products or brand to their friends while following and being influenced by companies' brand pages on social networking sites. From this perspective, brand loyalty reflects the long-term relationship between consumers and brands (Chaudhuri and Holbrook, 2001), and it also captures an important aspect of consumer behavior in the online brand building process. A recent survey by eMarketer (2013) showed that 53% of social network users in the US and 66% of those in China had followed companies' brand pages. Marketprobe International (2013) indicated that 72% of users tended to buy products from a small or medium-sized business after following its brand microblog on Twitter, and 30% of them were inclined to recommend the microblog to friends. Malhotra et al. (2012) observed that companies should build brands rather than promote products blatantly through social networking sites. Based on these findings, it becomes imperative for both practitioners and researchers to comprehend how to create, maintain, and strengthen consumers' brand loyalty using social networking sites.

In this research, our purpose is to understand the determinants of brand loyalty while consumers follow companies' brand pages on social networking sites. Contrary to traditional online brand communities, in which consumers primarily interact with other consumers, companies' brand pages accentuate their role in interacting with their consumers and followers. To address this unique attribute of brand pages, we draw upon the relationship quality perspective. We propose and empirically test a

research model to articulate the mediating role of relationship quality in building brand loyalty. More importantly, we propose four key determinants of relationship quality, namely, self-congruence (i.e., the self factor), social norms (i.e., the social factor), and information quality and interactivity (i.e., the characteristics of brand pages). We expect this study to contribute to research in a number of aspects. First, it adds to recent social commerce research by investigating brand loyalty on social networking sites. This is an important research area that only receives limited attention (Laroche et al., 2013). Second, we investigate the mediating role of relationship quality on brand loyalty. We identify and empirically test brand loyalty's antecedents in the current social media context, and this relationship quality perspective extends our understanding of online brand communities by emphasizing the relationship between companies and consumers rather than just focusing on interactions among consumers. We expect our findings to provide insights into companies that intend to take an active role in engaging with consumers through social networking sites (Godes et al., 2005). Finally, we identify the self factor (i.e., self-congruence) as the most important antecedent in our model. This is not in line with the common understanding that the social factor or characteristics of companies' brand pages are likely to play dominant roles in online social contexts (e.g., Jang et al., 2008; Zeng et al., 2009).

The remainder of this paper is organized as follows. In Section 2, we present the theoretical background of this study. We develop our research model and hypotheses in Section 3. In Sections 4 and 5, we empirically test the model by conducting an online survey on a microblogging site. Finally, in Section 6, we discuss our findings and address the theoretical and practical implications, as well as the limitations and opportunities for future research.

2. Theoretical background

To gain insights into building brand loyalty in social commerce, this section first reviews previous studies on brand loyalty in online environments. We then discuss the perspective of relationship quality, as well as the self and social factors and characteristics of brand pages.

2.1. Brand loyalty in online environments

With the prevalence of e-commerce and Web 2.0 technologies, many marketers and companies are realizing that it is important and beneficial for them to build brand loyalty in online environments. To achieve this goal, the most widely adopted approach is to establish online communities in which consumers can share their interests and interact with each other (Hagel and Armstrong, 1997; Kim et al., 2008). The seminal work of Armstrong and Hagel III (1996) determined that online communities may address four aspects of consumer needs, namely, transactions, interest, fantasy, and relationship needs.

In the extant literature, we identify a total of 12 key papers that empirically investigate brand loyalty building in online communities. A summary of these papers is depicted in Appendix A and is briefly discussed here. Brand loyalty is often defined in these papers from a behavioral perspective, which primarily considers consumers' product or brand repurchase and recommendation (e.g., Casaló et al., 2007; Hur et al., 2011; Porter and Donthu, 2008). Brand loyalty was examined from an attitudinal perspective by Shang et al. (2006), emphasizing consumers' commitment and emotional attachment to brands, while Kuo and Feng (2013) studied oppositional brand loyalty, which refers to the degree to which consumers express negative opinions on rival brands. As shown in our literature summary, prior research has provided insights with respect to the direct antecedents of brand loyalty. In general, a majority of these studies focus on the influence of consumers' beliefs, feelings, or behavior associated with online communities. For instance, Casaló et al. (2007, 2010a, 2010b) elucidated the influence of consumers' community participation on brand loyalty. Hur et al. (2011) posited that if consumers trust the members of an online brand community, then they are likely to develop a high level of loyalty to that brand. Jang et al. (2008) and Kuo and Feng (2013) also showed that community commitment is an important determinant of brand loyalty in such contexts. Looking at these studies, we observe that only few of them examine the impacts of relational factors between consumers and brands or companies (e.g., Porter and Donthu, 2008). Similarly, few studies have investigated brand loyalty building on social

networking sites (e.g., Laroche et al., 2013). None of the studies in our literature summary applied the relationship quality perspective to investigating brand loyalty building in online communities. The current state of this research area appears to be understandable because prior research on online communities often assumes that the communities mostly consist of consumers. Hence, the conversations (and content) within the communities are generated among consumers. Therefore, consumers' participation and community identification with and commitment to other consumers usually constitute the research focus when studying these communities (e.g., Casaló et al., 2007; Hur et al., 2011; Jang et al., 2008). In contrast, brand communities on social networking sites are distinctive because companies play a dominant role in interacting with and posting messages to consumers (followers). This suggests that prior research on traditional online communities may not be sufficient for understanding how to build consumers' brand loyalty through companies' brand pages on social networking sites. To address this concern, more emphasis should be placed on explicating companies' relationships with consumers and investigating what companies can do to strengthen such relationships.

2.2. Relationship quality

Relationship marketing is an important research area in the literature. Many relationship marketing studies have been conducted in a range of contexts (e.g., business to business, buyer to seller, and service) in the past two decades (Vincent and Webster, 2013). These studies investigate key elements in all forms of relational exchange. Prior research posits that firms attempt to establish and maintain long-term relationships with consumers in order to manage uncertainties and reduce transaction costs (Morgan and Hunt, 1994). Important concerns in this line of research include how to retain strong relationships and how to convert indifferent consumers into loyal ones in online and offline environments (e.g., Berry and Parasuraman, 1991; Verma et al., 2015).

In relationship marketing, *relationship quality* is a core concept that evaluates the strength or closeness of a relationship (Hennig-Thurau et al., 2002). From the consumer's point of view, high relationship

quality indicates that a consumer has faith in a company's (or a brand's) future performance due to prior positive interactions between them (Crosby et al., 1990). Relationship quality is usually conceptualized in the literature as a multidimensional construct (Liang et al., 2011; Smith, 1998). The three most salient dimensions of relationship quality are trust, commitment, and satisfaction (Garbarino and Johnson, 1999; Palmatier et al., 2006). *Trust* is a consumer's psychological state that depicts his or her trusting beliefs (e.g., honesty and reliability) toward a company or other entities (Doney and Cannon, 1997). Morgan and Hunt (1994) asserted that trust exists "when one party has confidence in an exchange partner's reliability and integrity" (p. 23). *Commitment* refers to one's ongoing desire to sustain a relationship (Moorman et al., 1992). Thus, it denotes the likelihood of avoiding relationship change (Aaker, 1991). Research has shown that commitment is essential for maintaining worthwhile relationships between consumers and companies (Shankar et al., 2003). *Satisfaction* is defined as "the summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the customer's prior feelings about the consumption experience" (Oliver, 1981, p. 29). Therefore, satisfaction is developed based on consumers' expectations and prior experiences (Crosby et al., 1990; Smith, 1998), which includes their shopping experiences and any other forms of interactions with companies. It is in fact easier to establish online consumer relationships if a high level of satisfaction is achieved (Wang and Head, 2007).

Earlier research has shown that relationship quality between consumers and companies (or salespersons, sellers, service providers, and brands) can produce many positive outcomes, including sales effectiveness, firm performance, word of mouth, repurchase behavior, consumer retention, and loyalty (e.g., Athanasopoulou, 2009; Crosby et al., 1990; Palmatier et al., 2006; Zhang and Bloemer, 2008). Information systems (IS) research has also shown that relationship quality is important in online shopping. For instance, Zhang et al. (2011) examined relationship quality between consumers and online sellers in the B2C e-commerce context and found that that it positively affected consumers' online repurchase intentions. Sanchez-Franco et al. (2009) posited that relationship quality between consumers and Internet service providers has a significant impact on consumer loyalty. Given its importance, a number of studies

have investigated the antecedents of relationship quality (e.g., Casaló et al., 2010b; Hennig-Thurau et al., 2002; Moliner et al., 2007). For instance, Athanasopoulou (2009) found that these antecedents can include factors associated with the characteristics of two relationship parties, relationship attributes, product or service characteristics, and the environment. Gounaris and Stathakopoulos (2004) posited that consumer drivers, brand drivers, and social drivers are critical for developing consumer and brand relationships. In a more recent study, Zhang and Bloemer (2008) contended that consumers' value congruence with service brands is an important but less investigated issue; they showed that value congruence can positively affect relationship quality. Similarly, Pentina et al. (2013) showed that it is important to consider users' perceived personality matches with social networking sites when investigating the user-website relationship.

2.3. Self- and social-factors and characteristics of brand pages

In line with Gounaris and Stathakopoulos's (2004) view on the importance of consumer, social, and brand drivers in the consumer-brand relationship, this study considers three categories of factors as the antecedents of relationship quality: the self factor, the social factor, and characteristics of companies' brand pages. More specifically, based on the literature review, we investigate four factors in the above categorization, namely, self-congruence, social norms, information quality, and interactivity.

Self-congruence. Self-congruence describes consumers' psychological states when they compare their self-concepts with the image or personality of a company or a brand (Sirgy, 1985, 1982). A high level of self-congruence indicates a good match between the consumer and the company or brand (Chatman, 1989). Consumers are often motivated to develop self-congruence because they want to maintain and act upon their self-concepts (Malhotra, 1988). More specifically, two self-motivational needs, self-consistency and self-esteem, are said to stimulate consumers' psychological comparison processes (Chatman, 1989; Sirgy, 1982). The self-consistency motive indicates that consumers want to retain their comfortable and favorable self-concepts. The self-esteem motive refers to consumers' desire to show themselves as competent and worthy.

Social norms. To account for influence and social pressure from others, prior research adopts a number of similar terms. For instance, social norms measure the extent to which individuals follow the other people's expectations that they think are important (Wang and Chen, 2012). Social influence addresses the normative influence from others in online shopping or IT adoption contexts (Guo and Barnes, 2011; Venkatesh et al., 2003). Subjective norms are also used in the theories of reasoned behavior and planned behavior (Ajzen, 1991; Pavlou and Fygenon, 2006). In this study, social norms account for the influence of others. Social norms can be viewed as a social group's common beliefs and behavioral codes. Prior research shows that individuals' perceptions and behaviors are influenced by social norms (Lin, 2010).

Information quality and interactivity. Information quality and interactivity are considered the two primary characteristics of companies' brand pages on social networking sites. What messages companies post on these brand pages and how frequently they interact with their followers are usually considered important matters. According to Doll and Torkzadeh (1988), information quality is defined as the extent to which consumers perceive that the information content posted by a company on its brand page is of high quality (e.g., new and affluent). Interactivity refers to consumers' perceptions of the interactivity level of a company's brand page (Kuo and Feng, 2013). That is, it captures whether the brand page is active and whether the company frequently interacts with its followers. Information quality and interactivity have been identified as significant components of website quality (Chiu et al., 2005). Jang et al. (2008) showed that these two factors are critical characteristics of online brand communities that may increase consumers' brand loyalty. Kim and Park (2013) also contended that these factors are important attributes of social commerce companies.

3. Research model and hypotheses

Drawing upon the theoretical background of this study, we propose a research model to explicate how consumers develop their brand loyalty as they follow companies' brand pages in social commerce. First,

we propose that brand loyalty may be primarily predicted by relationship quality between consumers and brands. Consistent with prior research (e.g., Liang et al., 2011), we conceptualize relationship quality in three salient dimensions: trust, commitment, and satisfaction. We believe that it is important to understand the role of relationship quality in a social commerce setting because it can be challenging (yet gratifying) for a company to dwell on how to directly manage its online relationships with perhaps millions of consumers through a social networking site. Next, we propose that self-congruence (the self factor), social norms (the social factor), information quality, and interactivity (characteristics of brand pages) may have positive effects on relationship quality. This implies that companies may harness the influences of self and social factors and the characteristics of brand pages to build brand loyalty on social networking sites. Figure 1 depicts the research model of this study.

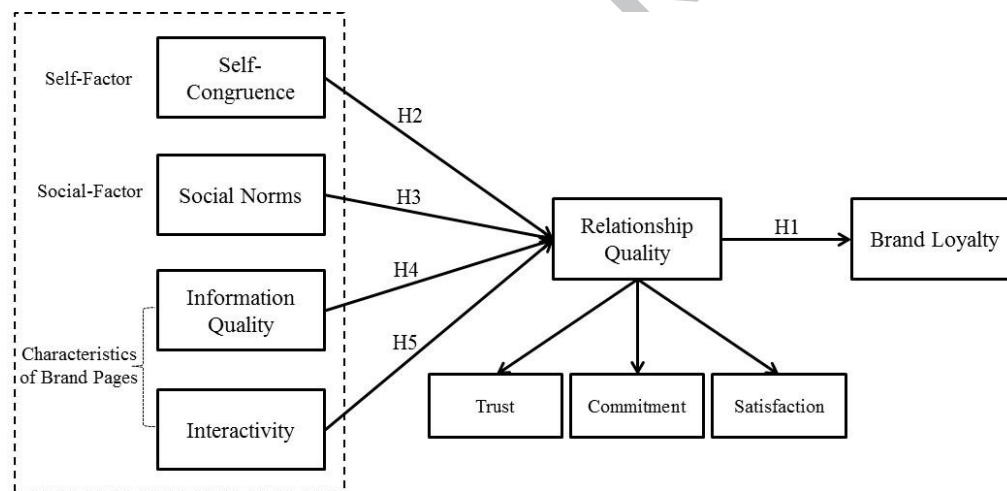


Fig. 1. Research model.

3.1. The effect of relationship quality

We propose that relationship quality may have a positive impact on consumers' brand loyalty on social networking sites. Such sites as Facebook and Twitter have provided extraordinary opportunities for companies to develop and manage their online relationships with consumers. In these circumstances, consumers may develop feelings of *trust*, *commitment*, and *satisfaction* toward brands while following

companies' brand pages. For instance, trust in a brand indicates that a consumer believes the brand is honest, reliable, and safe. A consumer may foster these trusting beliefs by referring to the messages posted by the brand or company and the way it responds to other consumers' comments. In a similar vein, commitment describes a consumer's desire to establish a positive and sustainable relationship with a brand. A consumer may be committed to sustain a relationship with a brand if s/he observes that s/he can find valuable information on the company's brand page. Satisfaction reflects a consumer's emotional feeling toward a brand, and it is possible that a consumer may develop a level of brand satisfaction based on his/her overall experience of interacting with the company's brand page.

Studies have shown that consumer loyalty is often a direct outcome of relationship quality (Athanasopoulou, 2009; Palmatier et al., 2006). Research on branding also finds that the three dimensions of relationship quality (trust, commitment, and satisfaction) are closely related to loyalty in the consumer-brand relationship (Zhang and Bloemer, 2008). Sung and Kim (2010) showed that a high level of brand trust increases brand loyalty. Brand trust and commitment are found to influence consumers' purchase and word-of-mouth behaviors (Becerra and Korgaonkar, 2011; Kim et al., 2008). Similarly, Brakus et al. (2009) and Lee et al. (2009) consistently showed that if a consumer becomes satisfied with a brand, then s/he is more likely to develop loyalty towards it. Based on the above discussion, we propose that when a consumer follows a company's brand page on social networking sites, s/he can establish a relationship with the brand, the quality of which affects his/her level of brand loyalty. The following hypothesis is provided:

H1: Relationship quality positively affects brand loyalty.

3.2. The effect of self-congruence

We expect that consumers can establish self-congruence with a brand as they follow companies' brand pages on social networking sites. On one hand, companies can create unique online identities. They may

post “humanizing” messages on brand pages (Malhotra et al., 2012), which enables them to establish a clear image and brand personality online. On the other hand, consumers are often motivated to identify and demonstrate their self-concepts by following companies’ brand pages. For example, consumers may want to receive brand messages (e.g., fashion and innovation related messages) on these brand pages as a way of identifying certain self-concepts. They may also forward these messages to their own social networks as a way to demonstrate (i.e., show off) their related self-concepts.

We propose that consumers’ self-congruence (the self factor) may have a positive effect on brand loyalty. Prior research shows that the cognitive contrast between consumers’ self-concepts and brand images may affect the way consumers respond to brands (Sirgy, 1985). For instance, it was shown that self-congruence may influence consumers’ product (Malhotra, 1988) and brand (Hong and Zinkhan, 1995) preferences and brand loyalty (Kressmann et al., 2006). Jahn et al. (2012) contended that self-congruence affects both brand trust and brand commitment. In the context of services, the quality of the consumer-brand relationship (including trust, commitment, and satisfaction) is also found to be a direct consequence of consumers’ self-congruence (Zhang and Bloemer, 2008). Based on these findings, we provide the following hypothesis:

H2: Self-congruence positively affects relationship quality.

3.3. The effect of social norms

This study considers social norms to reflect a consumer’s perception of social pressures from important others who recommend that s/he follow a company’s brand page. We expect that this social factor may affect relationship quality in the present research context. A consumer may seek to comply with other users’ expectations and to maintain a high-quality relationship with a brand by following it on social networking sites. Hwang and Lee (2012) found that consumers’ trust is influenced by social factors, such that social norms are important in strengthening trust in online sellers. Wang and Chen (2012)

suggested that individual members who comply with the norms of others are more likely to develop commitment in online communities. This implies that people are likely to become committed and to maintain worthwhile relationships based on the recommendations and expectations of others. Research on e-service adoption also contends that social norms positively influence consumer satisfaction (Hsu and Chiu, 2004). Similarly, Moliner et al. (2007) posited that if a consumer perceives that s/he can receive social value or social approval from others, then s/he is more likely to maintain a close relationship with a brand. In view of the above, we propose the following hypothesis:

H3: Social norms positively affect relationship quality.

3.4. The effects of information quality and interactivity

We propose that companies can strengthen the consumer-brand relationship by improving the levels of information quality and interactivity on their brand pages. That is, the two factors may positively affect relationship quality in this social commerce context. If a company's brand page regularly contains high-quality information related to its brand or products, then consumers will find it beneficial to be exposed to this information. In this respect, consumers are more likely to maintain the relationship with the company by following its brand page. This is consistent with the view that consumers establish a high level of relationship quality with companies or brands because they want to benefit from the relationships (e.g., Hennig-Thurau et al., 2002; Moliner et al., 2007; Porter and Donthu, 2008). In a similar vein, consumers tend to benefit from following a company's brand page with a high interactivity level because they are more likely to receive instant responses. Prior research shows that interactivity is important for consumers to communicate in online brand communities (McWilliam, 2000). Kuo and Feng (2013) contended that interactive online brand communities enable consumers to identify various benefits (e.g., hedonic and learning benefits). Based on these findings, we propose two hypotheses:

H4: Information quality positively affects relationship quality.

H5: Interactivity positively affects relationship quality.

4. Research method

We assessed our research model by conducting an online empirical survey on brand microblogs published on a popular microblogging site. Details of the data collection and measures are presented below.

4.1. Data collection

We developed an online questionnaire for data collection on Weibo.com, the most popular microblogging site in China, which is similar to Twitter.com. Many companies have been eager to create and maintain their brand pages on Weibo.com; hence, it was deemed suitable for testing how consumers develop brand loyalty in social commerce. The targeted respondents were users who had been following companies' brand pages on Weibo.com. Because we collected data in China, the instruments in the questionnaire had gone through a translation and back translation process with the help of two doctoral students. That is, first, one translated the instruments from English to Chinese, and then the other translated them back from Chinese to English. The two English versions of the instruments were compared, and all inconsistencies were resolved to improve the quality of the questionnaire. Further, we invited experts including professors and doctoral students to review the questionnaire. The experts were familiar with survey methods and Weibo.com, and we used their feedback to improve some of the wording, sequences, and layout issues in order to develop the final questionnaire.

Because no email lists were available to reach respondents, we posted invitation messages with the URL of the questionnaire on a number of popular brand pages. These pages were identified on

Weibo.com's web portal of popular brands¹. Because these brand pages had many followers, this approach allowed us to attract the attention of as many respondents as possible. To ensure the quality of the responses, we asked each respondent a screening question to check whether s/he had been following a brand page. We also asked for the name of the brand page that the respondent followed most frequently. This way, respondents could better recall the experience of following brand pages, and we were able to collect a total of 424 usable responses. Samsung, Lenovo, Apple, and NBA were some of the most widely followed brands by the respondents. Note that a possible concern for our survey study was non-response bias, which considers the bias results from the significant differences between non-respondents and respondents. Because it was not possible to compare the two groups of users in this study, we followed prior research (e.g., Al-Qirim, 2007) and compared the demographics of early (the first 50) and late (the last 50) respondents. This approximate approach considered late respondents to be representative of non-respondents (Karahanna et al., 1999). The result showed that no significant differences were found. Hence, it seemed that non-response bias was not a critical concern for this study. As shown in Table 1, the sample had 57.1% male respondents and 42.9% females. Nearly two-thirds, 64.4%, of the respondents were aged 25 to 30 and had bachelor degrees (66.5%); many others (25.5%) had postgraduate degrees or above. A majority of the respondents (76.2%) possessed products by the brands they followed on the microblogging site. The demographic characteristics of our sample were consistent with the results of a recent survey by Weibo.com (Sina, 2013).

Table 1

Demographic characteristics.

		Number	Percentage
Gender	Male	242	57.1%
	Female	182	42.9%

¹ <http://verified.e.weibo.com/brand>, accessed on 20 August 2015.

Age	Below 18	16	3.8%
	18-24	273	64.4%
	25-30	112	26.3%
	31-40	21	5.0%
	40 or over	2	0.5%
Education	Senior high school or below	34	8.0%
	Bachelor	283	66.5%
	Postgraduate	97	22.9%
	Doctor or above	11	2.6%
Income (RMB)	Below 1000	181	42.7%
	1000-2000	34	8.0%
	2001-3000	73	17.2%
	3001-4000	47	11.1%
	4001-5000	31	7.3%
	Above 5000	58	13.7%
Product possession	Yes	323	76.2%
	No	101	23.8%

4.2. Measures

To operationalize the constructs, we adapted well-validated measures from previous research. Only slight modifications were introduced to the measures to ensure that they had face validity in the current research context. The measures used 7-point Likert scales that ranged from 1=strongly disagree to 7=strongly agree. Table 2 depicts the measures of the constructs.

Table 2

Measures of constructs.

Construct	Items	References
Self-congruence (SC)	When I follow the brand page... SC1: I find that the brand is similar to me. SC2: I feel a personal connection to the brand. SC3: I think the brand reflects who I am.	(Escalas and Bettman, 2003; Ha and Im, 2012)
Social norms (SN)	SN1: Most people who are important to me think I should follow the brand page. SN2: The people who I listen to could influence me to follow the brand page. SN3: My close friends and family members think it is a good idea for me to follow the brand page.	(Wang and Chen, 2012)
Information quality (IQ)	I think the information posted by the brand page is... IQ1: excellent IQ2: comprehensive IQ3: new IQ4: credible	(Jang et al., 2008)
Interactivity (IN)	I think the company... IN1: actively exchanges information with its followers on the brand page. IN2: frequently interacts with its followers on the brand page IN3: often responds in a timely manner to inquiries or comments from its followers on the brand page	(Jang et al., 2008)
Trust (TR)	When I follow the brand page... TR1: I find that the brand is safe. TR2: I believe that this is an honest brand. TR3: I confirm that this is a reliable brand.	(Sung and Kim, 2010)
Commitment (CO)	The relationship that I have with the brand... CO1: is something I am very committed to.	(Morgan and Hunt,

	CO2: is something I intend to maintain indefinitely.	1994)
	CO3: deserves my maximum effort to maintain.	
Satisfaction (SA)	SA1: I am satisfied with the brand.	(Liang et
	SA2: I am pleased with the brand.	al., 2011)
	SA3: I am happy with the brand.	
Brand loyalty	BL1: I will buy products of the brand next time.	(Chaudhuri
(BL)	BL2: I intend to keep purchasing products from the brand.	and
	BL3: I will recommend the brand to others.	Holbrook,
		2001; Jang
		et al.,
		2008)

5. Data analysis and results

We employed the partial least squares (PLS) method to analyze the data. PLS is a component-based structural equation modeling approach that has been widely adopted in the existing literature (e.g., Ahuja and Thatcher, 2005; Venkatesh and Morris, 2000). We examined our research model following a two-step procedure (Hair et al., 1998): a measurement model and a structural model.

5.1. Measurement model

In the measurement model, we assessed the convergent and discriminant validity of the measures. First, the convergent validity was examined to ensure that items of the same construct were closely related given that they were under the same conceptual domain. Table 3 shows that all constructs had high loadings on their items. Further, we calculated the composite reliability (CR) and average variance extracted (AVE) for the constructs. To ensure the convergent validity, the CR value of each construct should be greater than 0.7, and the AVE value for each construct should be higher than 0.5 (Fornell and

Larcker, 1981). Table 4 reflects that we found that all CR and AVE values of the measures met these requirements, indicating that convergent validity was sufficient in this study. Second, we tested the discriminant validity to ensure that the items for the different constructs had low cross loadings because they are conceptually different. It is deemed acceptable if the square root of the AVE for each construct is greater than any of its correlations with other constructs (Fornell and Larcker, 1981). As shown in Table 4, discriminant validity was also sufficient for this study.

Table 3

Descriptive statistics of constructs.

	Item	Loading	Mean	SD
Self-congruence (SC)	SC1	0.898	4.929	1.301
	SC2	0.931	4.953	1.380
	SC3	0.883	4.816	1.540
Social norms (SN)	SN1	0.892	4.200	1.662
	SN2	0.819	4.606	1.651
	SN3	0.889	4.314	1.567
Information quality (IQ)	IQ1	0.910	5.080	1.443
	IQ2	0.914	5.127	1.422
	IQ3	0.840	5.210	1.372
	IQ4	0.852	5.389	1.417
Interactivity (IN)	IN1	0.917	4.986	1.414
	IN2	0.936	4.851	1.432
	IN3	0.869	4.792	1.473
Trust (TR)	TR1	0.903	5.427	1.288
	TR2	0.895	5.486	1.230
	TR3	0.750	4.823	1.394

Commitment (CO)	CO1	0.918	4.672	1.422
	CO2	0.944	4.932	1.407
	CO3	0.931	4.738	1.492
Satisfaction (SA)	SA1	0.921	5.241	1.313
	SA2	0.901	5.000	1.312
	SA3	0.813	5.429	1.205
Brand loyalty (BL)	BL1	0.931	5.236	1.348
	BL2	0.890	4.788	1.472
	BL3	0.896	5.358	1.326

Table 4

Convergent and discriminant validity of the constructs.

	CR	AVE	SC	SN	IQ	IN	TR	CO	SA	BL
SC	0.931	0.818	0.904							
SN	0.901	0.753	0.487	0.868						
IQ	0.932	0.774	0.355	0.235	0.880					
IN	0.934	0.824	0.329	0.330	0.343	0.908				
TR	0.888	0.726	0.620	0.448	0.443	0.416	0.852			
CO	0.951	0.867	0.648	0.424	0.363	0.358	0.602	0.931		
SA	0.911	0.774	0.701	0.420	0.464	0.445	0.721	0.656	0.880	
BL	0.932	0.820	0.569	0.377	0.448	0.390	0.679	0.706	0.701	0.906

Note: CR=Composite Reliability; AVE=Average Variance Extracted; Diagonal values in bold are square roots of AVEs.

5.2. Structural model

Before assessing the structural model, we tested possible concerns for common method bias and multicollinearity. Following Podsakoff et al. (2003), we ran Harman's single-factor test, and the result showed that no single factor was extracted and that none of the factors accounted for a majority of the variances. We also applied Liang et al.'s (2007) PLS-based common method bias test. This test included adding a "method" factor, which was measured with the items of all constructs, into the research model. The variance of each item was then explained by its principal construct and the method factor. Our results showed that the averaged variance explained by the principal constructs was 80.8%, whereas the averaged variance explained by the method factor was only 1.7%. Hence, common method bias was less likely to be a serious concern for this study. Next, we followed Mason and Perreault's (1991) approach and examined the multicollinearity of the independent variables. The results indicated that the variance inflation factors (VIF) ranged from 1.330 to 3.322, which were far below the threshold of 10. Therefore, multicollinearity was also not a critical concern for this study.

In the structural model, we examined the path coefficients and the explanatory power of the constructs. We employed the bootstrapping procedure and assessed the significance of all paths. Relationship quality was operationalized as a second-order construct with three dimensions: trust, commitment, and satisfaction². As shown in Figure 2, relationship quality ($\beta=0.792$, $p<0.001$) demonstrated a significant impact on brand loyalty; thus, H1 was supported. Further, we found that self-congruence ($\beta=0.570$, $p<0.001$), social norms ($\beta=0.110$, $p<0.01$), information quality ($\beta=0.193$, $p<0.001$), and interactivity ($\beta=0.171$, $p<0.001$) positively influenced relationship quality, suggesting that H2, H3, H4, and H5 were also supported. In summary, all of our proposed hypotheses were supported. The variances explained in relationship quality and brand loyalty were 65.1% and 62.7%, respectively.

² In the existing literature, relationship quality has been operationalized either as a second-order factor or directly with its dimensions. In this study, we operationalized it as a second-order factor for the purpose of parsimonious and better conceptual illustration. Nevertheless, we also tested the structural model using the first-order factors: trust, commitment, and satisfaction. The results showed that the four antecedents significantly affected the three dimensions of relationship quality, which further influenced brand loyalty. Self-congruence consistently demonstrated the strongest effects on the three dimensions, whereas commitment ($\beta=0.373$, $p<0.001$) had a relatively stronger effect on brand loyalty than trust ($\beta=0.262$, $p<0.001$) and satisfaction ($\beta=0.267$, $p<0.001$). Overall, all hypotheses were again supported in this respect.

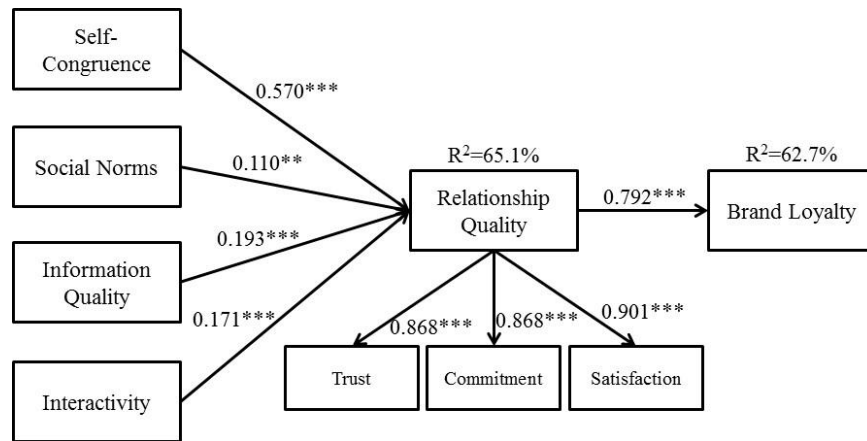


Fig. 2. Structural model.

Note: * denotes $p < 0.05$, ** denotes $p < 0.01$, and *** denotes $p < 0.001$.

As a post-hoc analysis, we examined the mediating role of relationship quality in the research model following the procedure suggested by Baron and Kenny (1986). As shown in Table 5, relationship quality (RQ) fully mediated the effects of self-congruence (SC), social norms (SN), and interactivity (IN) on brand loyalty (BL). Meanwhile, the influence of information quality (IQ) was partially mediated. These results confirmed that relationship quality played a crucial mediating role in the research model.

Table 5

Mediating tests of relationship quality.

IV	M	DV	IV→DV	IV→M	IV+M→DV		Mediating effect
					IV	M	
SC	RQ	BL	0.570***	0.748***	-0.050	0.830***	Full
SN	RQ	BL	0.378***	0.489***	-0.011	0.798***	Full
IQ	RQ	BL	0.453***	0.480***	0.090*	0.749***	Partial

IN	RQ	BL	0.391***	0.461***	0.031	0.778***	Full
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Note: * denotes $p < 0.05$, ** denotes $p < 0.01$, *** denotes $p < 0.001$, IV refers to independent variable, M refers to mediator, and DV refers to dependent variable.

6. Discussion and conclusion

The purpose of this study is to investigate what drives consumers to build brand loyalty as they follow companies' brand pages on social networking sites. Drawing upon the relationship quality perspective, we propose and empirically test our research model through a survey on a microblogging site. Our findings show that brand loyalty is primarily determined by relationship quality. Consumers' relationship quality with brands can be further strengthened by three important categories of factors: the self factor (i.e., self-congruence), the social factor (i.e., social norms), and characteristics of companies' brand pages (i.e., information quality and interactivity). These findings indicate that consumers are more likely to develop trust, commitment, and satisfaction toward a brand in social commerce if they (1) identify an excellent match between their self-concepts and the brand image; (2) want to comply with social expectations from others; (3) receive high-quality information by following the brand page; and (4) find that the company actively interacts with its followers. Further, the enhanced trust, commitment, and satisfaction toward the brand will influence consumers to repurchase its products and recommend the brand to their friends. The theoretical and practical implications of our findings are discussed below.

6.1. Theoretical implications

We argue that this research contributes to the existing literature with a number of important theoretical insights. First, we extend prior research on social commerce by examining consumers' brand loyalty. Previous studies have provided limited understanding of how to promote consumers' social commerce intentions (e.g., Liang et al., 2011; H. Zhang et al., 2014) and purchase intentions on social networking

sites (e.g., Kim and Park, 2013; Wang and Chang, 2013). In this study, we contend that it is also important to shed light on brand loyalty because it captures consumers' *loyalty behavior* (e.g., repurchase and recommendation behaviors) and highlights their long-term relationships with brands. In addition, advances in social networking technologies greatly enable companies to create and maintain online relationships with consumers (e.g., a company can create a brand page on Facebook and use it to interact with consumers). Thus, it will be theoretically important and practically timely to consider whether companies can successfully apply these technologies to building brand loyalty.

Second, to understand brand loyalty building in social commerce, we draw upon the relationship quality perspective. Based on our literature summary (in Appendix A), we found that this perspective has been scarcely adopted in the context of online communities. We speculate that this is because companies play a much less important role in traditional online communities than do consumers. We therefore expect this study to extend prior research on brand loyalty building in such contexts. We empirically demonstrate that consumers' relationship quality with a brand is a salient determinant of brand loyalty on companies' brand pages. Similarly, we determine that the emphasis of the present research also differs from recent research on social commerce that focuses on how social support *between consumers and their online friends* may affect consumers' behavior (H. Zhang et al., 2014). In contrast, this study shifts the focus to online relationships *between consumers and companies*. It provides insights into companies that want to take "aggressive" roles by actively interacting with consumers (instead of just "watching" them) on social networking sites (Godes et al., 2005). Moreover, the post-hoc analysis shows that relationship quality played an essential mediating role in the research model. Relationship quality fully mediates the influence of self-congruence, social norms, and interactivity. It also explains a large portion of the variance in brand loyalty. These findings further confirm that the relationship quality perspective provides a good explanation of brand loyalty building on social networking sites. It calls for more focus on relationship marketing perspectives in social commerce settings (Liang et al., 2011).

Third, this study proposes three categories of factors (i.e., the self factor, the social factor, and characteristics of companies' brand pages) to be the key antecedents of relationship quality. All of these factors were found to have significant effects in the model, which provides important insights into how to strengthen the consumer-brand relationships on companies' brand pages. More importantly, we found self-congruence to have the *strongest* impact on relationship quality. On one hand, this finding is not in line with prior research that contends that social or technological factors play more important roles in social commerce settings (Jang et al., 2008; Zeng et al., 2009). On the other hand, the prominent role of self-congruence in the model is consistent with a few recent works (Pentina et al., 2013; Zhang and Bloemer, 2008) that posited that consumers tend to develop close relationships with a brand if it fits their self-concepts. Furthermore, the importance of self-congruence closely connects to the concept of *authenticity* in recent research (Beverland and Farrelly, 2010). That is, consumers are likely to act in a way that truly reflects them and are reluctant to act in the opposite way (Malär et al., 2011). The authentic approach to branding suggests that companies should help consumers find and display their real selves through branding efforts (Beverland and Farrelly, 2010), by which method consumers will develop bonds and intimacy with the brands. Overall, one important finding of this study implies that consumers pay a great deal of attention to identifying and demonstrating their self-concepts by following companies' brand pages. It further implies that authentic branding may be an important strategy for companies to consider in the context of social commerce.

6.2. Practical implications

Our findings also offer insights to practitioners. We provide strong empirical evidence to show that companies can build brand loyalty by establishing brand pages on social networking sites. We highlight that it will be critical for companies to develop strong relationships with consumers in this context. For that, they should harness the influence of self-congruence, social norms, information quality, and interactivity. First, consumers are likely to trust, be committed to and be satisfied with a brand if they find

that the brand's image is similar to their self-concepts. In this respect, companies should take full advantage of social networking sites to deliver their brand personalities and to create clear brand images. Companies are advised to frequently post "humanizing" messages, and use hashtags (i.e., keywords or topics marked with the hashtag symbol #) or other online symbols on their brand pages; these tactics may help consumers to establish connections between their self-concepts and the brand images. Second, companies should be aware of the power of social norms on social networking sites. They may encourage current followers to recommend and invite online friends to follow the brand pages. Rewards, lucky draws, or promotions could be provided to motivate such recommendation behavior. Finally, companies should pay attention to the information content and interactivity levels of their brand pages. If consumers find that the brand pages have high levels of information quality and interactivity, then they are more likely to recognize the benefits of following the brand pages and thus develop strong relationships with the brands. Otherwise, a brand page with poor information quality or a low level of interactivity is less likely to attract consumers, and certainly not enough for building consumer relationships and brand loyalty.

6.3. Limitations and future research

We must note that this study has some limitations and presents opportunities for future research. First, our sample was collected on popular brand pages of the microblogging site Weibo.com. To increase the generalizability of our findings, future research may collect data on other social networking sites (e.g., Facebook and Twitter) and select respondents from more diverse population sectors. Second, this study only considers two primary characteristics of companies' brand pages (i.e., information quality and interactivity). It is possible that other social commerce characteristics may have important effects (Kim and Park, 2013). In this regard, future research may include more factors (e.g., reputation and size of companies' brand social networks) in the research model in order to enrich our understanding of brand loyalty building in social commerce. Third, the respondents in our survey were Chinese consumers who

followed companies' brand pages. It is possible that due to cultural differences, our findings may not apply to consumers in other countries. Recent research shows that cultural differences exist in individuals' motivations to use social networking sites (Kim et al., 2011). In addition, some scholars posit that consumers' brand loyalty may develop differently between Western and Eastern cultures (S. S. Zhang et al., 2014). Therefore, future research is suggested to extend this study by incorporating the role of culture in the model.

6.4. Conclusion

Social commerce opens a potential new arena for many companies. To embrace it, an important step is to create company brand pages on social networking sites and hope to affect consumer behavior. In this study, our purpose is to understand the determinants of brand loyalty in the context of social commerce. We employ the relationship quality perspective to explicate the importance of three aspects of determinants, the self factor, the social factor, and characteristics of companies' brand pages. We find that the impacts of self-congruence, social norms, information quality, and interactivity are mediated by relationship quality, which further increases consumer brand loyalty. Our findings suggest that it may be important for companies to consider relationship marketing and authentic branding perspectives as they attempt to harness the power of social commerce. We believe that this research provides a preliminary and empirical understanding of building brand loyalty in social commerce.

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Appendix A. A summary of key studies on brand loyalty building in online communities.

Author (year)	Context	Definition	Direct antecedents	Theoretical background
Casaló et al. (2007)	Free software virtual communities	Brand loyalty is defined from the behavioral perspective.	<ul style="list-style-type: none"> • Participation • Trust 	<ul style="list-style-type: none"> • The impact of participation in virtual communities
Casaló et al. (2010a)	Online travel communities	Brand loyalty is discussed but not explicitly defined. The dependent variables include intention to use the host firm's products and intention to recommend the host firm.	<ul style="list-style-type: none"> • Intention to participate 	<ul style="list-style-type: none"> • Technology acceptance model • Theory of planned behavior • Social identity theory
Casaló et al. (2010b)	Free software virtual communities	Brand loyalty is defined from the behavioral perspective.	<ul style="list-style-type: none"> • Promotion • Participation 	<ul style="list-style-type: none"> • Expectation disconfirmation theory • Identification with the community
Hur et al. (2011)	Online brand communities	This study employs brand loyalty behaviors, which include repurchase intention, word of mouth, and constructive complaints.	<ul style="list-style-type: none"> • Brand community trust • Brand community affect • Brand community commitment 	<ul style="list-style-type: none"> • The influence of brand community commitment
Jang et al. (2008)	Online brand communities	Brand loyalty is defined from the behavioral perspective.	<ul style="list-style-type: none"> • Community commitment 	<ul style="list-style-type: none"> • The characteristics of online brand

				communities
Kim et al. (2008)	Online communities	Brand loyalty is discussed but not explicitly defined. The dependent variables include repurchasing the same brand, purchasing related products, and positive word of mouth.	<ul style="list-style-type: none"> • Brand commitment 	<ul style="list-style-type: none"> • The impact of community and brand commitment
Kuo and Feng (2013)	Online brand communities	This study employs oppositional brand loyalty, which indicates that consumers express negative views on competing brands.	<ul style="list-style-type: none"> • Community commitment 	<ul style="list-style-type: none"> • Social exchange theory
Laroche et al. (2013)	Social networking site-based online communities	Brand loyalty is not explicitly defined. It is operationalized to show that consumers are loyal to the store, would buy the same brand from other stores, and would pay more for the brand.	<ul style="list-style-type: none"> • Brand trust 	<ul style="list-style-type: none"> • Elements of the customer centric model
Laroche et al. (2012)	Social networking site-based online communities	Brand loyalty is not explicitly defined. It is operationalized to show that consumers are loyal to the store, would buy the same brand from other stores, and would pay more for the brand.	<ul style="list-style-type: none"> • Brand trust 	<ul style="list-style-type: none"> • The influence of main community elements • Value creation practices
Porter and Donthu	Virtual communities	Brand loyalty is defined from the behavioral perspective. The	<ul style="list-style-type: none"> • Trust in a community 	<ul style="list-style-type: none"> • Cultivating trust in virtual communities

(2008)		dependent variable is loyalty intention.	sponsor	<ul style="list-style-type: none"> • Companies' efforts can affect consumers' perceptions
Scarpi (2010)	Web-based brand communities	Brand loyalty is defined from the behavioral perspective.	<ul style="list-style-type: none"> • Brand affect • Community loyalty 	<ul style="list-style-type: none"> • The moderating role of community size • The influence of brand community identification
Shang et al. (2006)	Virtual consumer communities	Brand loyalty is defined from the attitudinal perspective.	<ul style="list-style-type: none"> • Participation (lurking and posting) • Involvement (cognitive and affective) 	<ul style="list-style-type: none"> • The value of participation in virtual communities • Involvement as the motivation of participation

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- We examine brand loyalty building on companies' brand pages in social commerce.
- We propose that brand loyalty is primarily determined by relationship quality.
- Three types of factors are proposed as the key antecedents of relationship quality.
- Among the antecedents, self-congruence demonstrates the strongest influence.

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