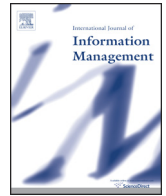




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Influence of customer engagement with company social networks on stickiness: Mediating effect of customer value creation

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ABSTRACT

Company social networks have become an important means for the socialized marketing of a company, forming a new challenge to companies on how to attract customers. Based on such theories as customer engagement, value co-creation, and relationship marketing, this paper presents a model of the influence of customer engagement on stickiness. Data collected from 260 valid questionnaires from Sina's enterprise microblog users were analyzed by structural equation modeling. Empirical results show that customer engagement has a direct and positive influence on customer stickiness as well as an indirect influence through customer value creation. This study enriches previous researches on existing theories of customer engagement, value co-creation, and stickiness, and gives practical guidance for companies to encourage customer engagement and enhance the stickiness of company social networks.

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1. Introduction

Social media has changed the way people communicate and companies have set up their own websites based on social network sites (CSNs) so that they can have direct interaction and connection with consumers (Martins and Patrício, 2013; Hajli, Sims, Featherman, & Love, 2014a; Hajli, Lin, Featherman, & Wang, 2014b). On the one hand, social media has a powerful social function to turn customers' offline social networks into online ones; on the other hand, it also has great timeliness and influence because of its viral spread of information (Kaplan & Haenlein, 2010). Therefore, it can serve as an effective platform for companies to make use of the customers' social networks and spread the information instantly to a large number of potential customers. In the China alone, 69.4 percent of microblog consumers focus on Sina microblog (China Internet Network Information Center, 2015), and over 80 percent of microblog users are connected to enterprise microblog. For instance, DELL builds fan page on twitter; Xiaomi establishes enterprise microblog attracting more than ten mil-

lion followers. However, social network platforms are open and independent. Customers can easily turn to other websites for similar contents, products, or services (a customer may follow several enterprise websites) and that means it is no longer an easy task to get customers "stuck" to you (i.e. stickiness; Lu & Lee, 2010). Meanwhile, with the continuous development of social media, the role of consumers has evolved from traditionally passive information "receivers" to information co-creators (Jahn & Kunz, 2012). Moreover, they expect more than promoting information from supermarket posters. They have a higher demand for company social networks—getting more valuable and meaningful information about the company and its products through interaction. For example, UC, a browser, is often used by customers with smart phone. UC customers on the microblog often discuss how to save traffic, improve efficiency and select browse mode, other than focusing on the product itself only. This significant change requires companies to cater to their needs and provide them with better services (Sashi, 2012).

With the changes in both CSNs and customers, numerous researchers and practitioners currently hold the view that customer engagement can be interpreted as "the repeated interactions between consumers and brand that strengthen the emotional, psychological or physical investment a customer has in that brand"

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(Brodie, Hollebeek, Juric, & Ilic, 2011; Van Doorn et al., 2010; Jaakkola & Alexander, 2014; Sashi, 2012). Corporate performance improvement can be realized through increasing sales growth rate, gaining competitive advantage, and enhancing profitability (Sedley, 2008). Market research company Aggregate Knowledge (2013), for example, found that among Fortune 500 companies marketing strategies that included social networks increased sales by 24% over strategies that did not include the social-media platform (Boehmer & Lacy, 2014). The theoretical basis of these claims is that the highly engaged customers on the social platform play an important role in generating contents, co-creating customer experience and value, and referring products, services, and brands to other customers (Jaakkola & Alexander, 2014; Hajli, 2014). In this paper, engaged customers seem particularly important. Unlike brand community, customers of CSN may or may not be brand admirers (Martins and Patrício, 2013). That is, quite a part of people just simply follow a CSN, rather than connecting closely with the CSN. They may just use or browse the news and information posed by CSNs. Highly engaged customers intend to actively participate in sharing messages and recommending them to potentials. Therefore, most CSNs managers agree that highly engaged customers determine the sustainability of their CSNs (Zhou, Wu, Zhang, & Xu, 2013). Because of the importance of customer engagement with CSNs to the business activities and the increasing interest of academic world, this study answers the Marketing Science Institute (MSI, 2008) call that customer engagement is one of the priority research subjects in the present-day marketing field.

To our knowledge, academic researches on customer engagement mostly stay in definition of the concept and development of the scale (e.g. Brodie, Ilic, Juric, & Hollebeek, 2013; Hollebeek, 2013; Jaakkola & Alexander, 2014; Hollebeek, Glynn, & Brodie, 2014). Few studies empirically analyze that customer engagement, a new relationship marketing paradigm, is the core of good relationship maintenance with the CSNs. However, the problem is that these studies lack sufficient understanding on how customer engagement helps forming a good relationship between customer and CSNs. And this paper answers several calls for considerable interest in the potential to engage customers and customer communities in co-production or co-creation value to enhance business performance or customer well-beings. This kind of value can be viewed as benefits/values from both consumer and company contribution (Brodie et al., 2013; Hollebeek, 2013; Jaakkola & Alexander, 2014). Based on this view, regarding CSNs as our study object, this paper tries to build a model about the influence of customer engagement on customer value creation and stickiness of websites. Theories of customer engagement, value co-creation along with relationship marketing are adopted. Meanwhile we also intend to explore the influence mechanism of the different aspects of customer engagement on customer value co-creation and stickiness, as well as the mediating effect of customer value co-creation in the process. It is expected that this study can enrich previous research in customer engagement, customer value co-creation, and stickiness. At the same time, we hope to provide practical guidance for enterprises to encourage customer engagement, and enhance the stickiness of CSNs.

The paper begins with an overview of the previous studies on customer engagement, customer value creation, stickiness, and word of mouth (WOM) marketing. The subsequent section discusses the research framework and hypotheses. Research methods are described and results of analysis are presented. Finally, managerial implications, limitations of this study, and suggestions for further research are discussed.

2. Literature review

2.1. Customer engagement

Since its initial study in the working environment by Kaln (1900), the concept of engagement has attracted widespread attention from the academic world. As a result, many scholars have conducted related research in a variety of fields. Studies include work by sociologists on social engagement, psychologists on civil engagement, educationists on student engagement, and scholars of organizational behavior on employee engagement and occupational engagement (Ilic, 2008; Hollebeek, 2011). In recent years, some scholars in the marketing domain have showed interest in engagement and they have put forward the concept of customer engagement. Patterson, Yu, and De Ruyter (2006) claimed that customer engagement was the psychological, cognitive, and emotional levels shown by customers while interacting with a certain organization or brand. Bowden (2009) held the view that customer engagement is a mental process in which new customers develop loyalty and old customers maintain their loyalty to a certain brand. Van Doorn et al. (2010) insisted that customer engagement is a non-transactional behavior of customers when they, out of some motivation, show an interest in a certain enterprise or brand. This non-transactional behavior mainly involves putting forward suggestions, spreading WOM praises, recommending the enterprise or brand to others, helping other customers, writing blogs, and/or posting comments. Slightly different from the belief of Van Doorn et al. (2010), Gummerus, Liljander, Weman, & Pihlström, 2012 maintained that customer engagement involves non-transactional and transactional behaviors. In the related studies in sociology and management, Hollebeek (2011) considered customer-brand engagement as a psychological state generated by customers when they are interacting with a brand. Such a motivation-driven and brand related psychological state involves customers' cognitive, emotional, and behavioral aspects and changes along with the environment. Based on this study, the author has come up with a curve model that shows the changes of customer value with customer-brand engagement (Hollebeek, 2013). Reviewing the related literatures about customer engagement in the field of marketing, Brodie et al. (2011) presented five basic hypothetical propositions and a general definition of "customer engagement" of virtual brand community. They concluded that customer engagement was a psychological state generated by customers when they interacted and co-created customer experience with other stakeholders in a specific service relationship, and it was a dynamic and circular process in the service relationship of value co-creation. Brodie et al. (2013) presented a further study on the subject by adopting a netnographic method. They came up with the idea that customer engagement was a multidimensional concept including cognitive, emotional, and behavioral factors and customers may have different forms of engagement in different environments with different stakeholders.

It can be seen from above studies that although scholars in the marketing field have not reached an agreement with the definition of customer engagement, most of their interpretation of the term share the following elements: 1) The connection between customer and enterprise or brand includes customers' emotional, cognitive, and behavioral involvement and 2) their definitions are focused on customers' interaction and value co-creation with enterprises, brands, or other customers. On this account, based on the definitions provided by Brodie et al. (2011) and Hollebeek (2011), this paper considers that customer engagement consists of three dimensions—customers' cognition, emotion, and behavior. It is a psychological state of the customers as they are co-creating interactive experience with enterprises and other customers. The core

of customer engagement is the interactive experience and value co-creation.

As far as the dimensions of customer engagement, little attention has been paid to it in the current academic world. Only a few scholars have carried out some exploratory research. [Algesheimer, Dholakia, and Herrmann \(2005\)](#) have provided the concept of brand community engagement that refers to the customers' active participation in brand community engagement out of their intrinsic motivation. [Patterson et al. \(2006\)](#) suggested that customer engagement involves four dimensions—vigor, dedication, absorption, and interaction. [Calder, Malthouse, and Schaedel \(2009\)](#) believed that online customer engagement consists of both personal and social-interactive engagement. [Kumar et al. \(2010\)](#) have come up with the concept of customer engagement value that contains customer lifetime value, customer referral value, customer influence value, and customer knowledge value. [Hollebeek, Glynn, and Brodie \(2014\)](#) suggested that the three dimensions of brand engagement are cognitive processing, affection, and activation. By using a scale development procedure, [Vivek \(2009\)](#) has come up with the three dimensions of “customer engagement”—enthusiasm, conscious participation, and social interaction. In this scale, enthusiasm is a reflection of the emotional element in customer engagement, conscious participation is the cognitive element, and social interaction is the behavioral element.

From the literature discussed above, it can be seen that although no agreement about the dimension of customer engagement has been reached in the marketing world, many scholars have agreed that customer engagement involves three dimensions -- cognition, emotion, and behavior. Among all the available literature, the scale for measurement engagement put forward by [Vivek \(2009\)](#) is most widely accepted. Regarding our study object, CSNs have two main features. First, by setting up websites to make use of social networks' sharing capability and customers' social relationship, enterprises can facilitate the spread of ideas, news, entertainments, activities, and user-generated information about brands, products or services to other users when consuming ([King, Racherla, & Bush, 2014](#); [Hajli, 2014](#)). This transmission process must rely on customers' interpersonal interaction and communication about their experience, which drive the flowing of information. Second, in terms of customers, they may or may not be brand admirers ([Martins and Patrício, 2013](#)). That is, quite a part of people just simply follow a CSN, but do not engage substantially with the CSN. Most CSNs managers agree that fans and highly engaged customers determine the sustainability of their CSNs ([Zhou et al., 2013](#)). Therefore, highly engaged customers with strong enthusiasm can give CSN an active online environment. Customer engagement (enthusiasm, conscious participation, and social interaction) pointed out by [Vivek \(2009\)](#) can reflect the characteristics of the CSNs. Based on the above reasons, this work uses Vivek's scale for measurement of customer engagement.

2.2. Customer value creation

The concept of customer value has received extensive attention in the marketing world since the 1980s. [Vargo and Lusch \(2008\)](#) and [Prahalad and Ramaswamy \(2004\)](#) have put forward the idea of value co-creation. They have claimed that enterprises co-create value with consumers, which means that customer value is neither a means used by producers to please consumers nor a value created by consumers for producers by participating in the production process. According to these scholars, customer value creation refers to the process by which producers and consumers, as peer subjects, co-create value for themselves and each other. In this co-creation process, these two subjects build personalized service experience together through continual dialogue and interactions ([Grönroos, 2008](#)). Based on this theory, some scholars have drawn a new view-

point from the perspective of consumers that customer value is created based on interaction between consumers and enterprises, and the interaction among them as well ([Schau, Muñiz Jr, & Arnould, 2009](#)).

As for value co-creation, some scholars view functional and hedonic values as two dimensions. They have extended their scope of study to the field of social media and have implemented some related empirical researches. Based on their research, scholars have concluded that information ([Foster, Francescucci, & West, 2010](#); [Hajli, Sims, 2014a](#); [Hajli, Lin, 2014b](#)) and entertainment ([Dholakia, Bagozzi, & Pearo, 2004](#)) constitute the two vital benefits appealing to users of social media.

Of the two dimensions in value co-creation, functional value mainly involves the instrumental and functional aspects of the social media and it is mainly related to information seeking and updating ([Lee, Yen, & Hsiao, 2014](#)). The information-seeking model developed by [Choo \(2000\)](#) shows that consumers evaluate information based on their perceptions of information, namely, the usefulness and accessibility of the information. If the information that consumers get is what they seek, it will undoubtedly affect consumer perceived value.

On the other hand, hedonic value mainly derives from pleasant experience and feelings directly relating to personal emotions and feelings ([Babin, Darden, & Griffin, 1994](#)) and forms in the process when customers interact with enterprises and/or other customers. For instance, the so popular “VANCL style” in microblog just originates from the style used by VANCL in its advertisements. The original intention of the advertisements is solely to stress the brand's uniqueness. However, the novel expression has attracted a large number of net users and posts parodying “VANCL style” appear on the web one after another. Individuals who come to read the posts cannot help laughing and name the writing style as “VANCL style” just for fun. This kind of computer-mediated communication is interesting and special. In the process of “parody”, consumers feel comfortable, pleased, and even psychologically content.

Some other scholars deem that social elements are the core of social media ([Yu et al., 2013](#); [Jahn & Kunz, 2012](#)). They have separated social value from hedonic value and defined it as the effectiveness of customers to enhance their social self-conception. The social function of social media lies in fully satisfying consumer needs to have real social interaction in cyberspace. It can expand customers' off-line social networks to online ones and enable them to build new social relationships at the same time. In these huge networks, customers with the same values and similar hobbies and interests can gather through microblog groups. Relational networks between different consumers and different microblog groups can be linked together and different forms of information can flow freely through retransmission and information sharing. This phenomenon is a good manifestation of the sociability of social media ([Cheng et al., 2009](#)).

Company social networks, the focus of present study, take information and service as platforms for socialization and interaction. Therefore, this paper also regards customer value creation as a three-dimensional value, namely, functional value, hedonic value, and social value.

2.3. Stickiness and WOM

Stickiness is an important ability for enterprises to attract and retain customers ([Zott, Amit, & Donlevy, 2000](#)). [Lin et al. \(2010\)](#) defined stickiness as customers' time spent on a company social network. [Li, Browne, and Wetherbe \(2006\)](#) have pointed out that, from the customers' perspective, even if there are marketing activities from other company social networks, the stickiness (a deep-rooted commitment) of customers to a certain company

social network still ensures them of a repeated visit and use of that company social network in question. Lin (2007) held the view that stickiness is customers' underlying and unconscious willingness to revisit a company social network. To summarize, all the definitions given by scholars involve two aspects: visit time length and user retention. Therefore, the definition of stickiness given by Kumar Roy et al. (2014) is adopted in this study. The concept of stickiness comprises both customers' visit time length in a company social network and the social network's ability to retain customers.

As for WOM, Tax, Chandrashekar, and Christiansen, 1996 defined WOM as informal interactions between customers about an enterprise or its products and services. According to Stern (1994), WOM refers to "the exchange of ephemeral oral or spoken messages between a contiguous source and a recipient who communicate directly in real life." The above definitions are consistent with recent studies of WOM (Gruen, Osmonbekov, & Czaplewski, 2006). A review of the literature reveals that customer satisfaction, trust, equity perceptions, perceived value, perceptions about service quality, affective attitude, and commitment are frequently mentioned and examined as antecedents to WOM in online or offline settings (Harrison-Walker, 2001; Kumar, Petersen, & Leone, 2007; De Matos & Rossi, 2008). For this study, we use "word-of-mouth" to refer to online or offline behavior and define WOM as the sender's interactive positive experiences about the CSNs with others. And the WOM in this study focuses on a positive one.

3. Conceptual model and hypotheses

3.1. Customer engagement and customer value creation

Customer engagement with CSNs can increase customers' perceived benefit and value. From the perspective of consumers, customer engagement may come from the fact that their needs are satisfied during the process of their participation, or because they are beneficiaries of the relationship, which they establish with others (Gummerus et al., 2012).

According to the extant literature, customer engagement includes three dimensions—enthusiasm, conscious participation, and social interaction, among which conscious participation refers to customers' intentional participation in activities and they have some cognition with the activities (Vivek, 2009). Customers' cognitive and conscious participation in CSNs may enhance the perceived value. Because in CSNs, reason-oriented customers may want to have a quick and comprehensive understanding of useful information (such as a product's function and usage); emotion-oriented customers prefer to experience this process, society-oriented customers would like to get together and communicate with those who possess the same interests, goals, or needs (Babin, Darden, & Griffin, 1994). Thus, individuals with different cognition participation in CSNs may obtain such values as acquiring news and product using skills, perceiving the relaxing and pleasant experience, as well as gaining a sense of belonging and identification (Jaakkola & Alexander, 2014).

Yu et al. (2013) found that individuals intend to participate in social networks due to perceived value as hedonic value, utilitarian value, and social value. Similarly, Jahn and Kunz (2012) analyzed three aspects motives (content-oriented, relationship-oriented, and self-oriented) for participation in brand fan pages. Previous studies of social networks demonstrated a close relationship between participation and perceived value (Cheng et al., 2009; Hollebeek, 2013). For these reasons, the following hypotheses are proposed:

H1a: Conscious participation has a direct and positive influence on functional value;

H1b: Conscious participation has a direct and positive influence on hedonic value;

H1c: Conscious participation has a direct and positive influence on social value.

Enthusiasm means that customers participation with intense excitement or passion (Vivek, 2009). Glassman and McAfee (1990) pointed out that people with enthusiasm are inclined to take risks, which makes them willing to take the initiative to avoid uncertainty and reduce misunderstandings. Since social media implies information explosion, enthusiastic customers incline to alleviate anxiety and uncertainty, which could increase trust of enterprises and customers, especially information in CSNs. Based on this, interactions and communication building could enable customers to get the needed information and knowledge while providing a relaxing and pleasant experience (Lanier & Hampton, 2008). This enables the customers to express and show themselves as they like (Kaplan & Haenlein, 2010; Gummerus et al., 2012).

Several studies have examined the effects of related affective variables on value. Yüksel (2007) claimed that individuals' emotions are related positively to utilitarian and hedonic shopping value. Hightower, Brady, and Baker (2002) concluded that positive affect, such as happy, satisfied, relaxed, excited etc., would promote the production of perceived value for customers. Accordingly, the following hypotheses are proposed:

H1d: Enthusiasm has a direct and positive influence on functional value;

H1e: Enthusiasm has a direct and positive influence on hedonic value;

H1f: Enthusiasm has a direct and positive influence on social value.

Social interaction refers to the communication and interaction of opinions, ideas, and feelings among customers, enterprises, and others (Vivek, 2009). CSNs with a higher level of interactivity can attract customers to discuss issues and respond quickly to questions (Teeni, 2001). Therefore, customers can quickly and easily get information and learn related knowledge of the brands/product, which facilitate individuals to know each other and become friends easily (Muniz & O'guinn 2001). The establishment of a closer relationship can, on the one hand, provide a stronger feeling of dependency and a sense of belonging. It can also offer customers a pleasant experience through this kind of harmonious interaction (Gremier, Gwinner, & Brown, 2001).

A number of social network-based studies show a causal link between social interaction and value. Stewart and Pavlou (2002) deemed that interactivity could create value by building trust. Teo et al. (2003) found that interactivity could increase consumers' perceptions of value for products and services. Kuo and Feng (2013) identified how the three interaction characteristics of brand community affect the perceived benefits (hedonic, social, self-esteem, and learning benefits) of community members that deeply revealed the interaction effect of value. Authors such as Vargo and Lusch (2008), Prahalad and Ramaswamy (2004) stress the importance of interaction and suggest that interaction is the nature of co-creation. Therefore, the following hypotheses are proposed:

H1g: Social interaction has a direct and positive influence on functional value;

H1h: Social interaction has a direct and positive influence on hedonic value;

H1i: Social interaction has a direct and positive influence on social value.

3.2. Customer value creation and stickiness

Customer value creation is an important driving factor for stickiness (Cheng et al., 2009; Kang, Tang, & Fiore, 2014). In the context of social media, customers and enterprises interact with each other

and pay attention to common topics about society, lives, and industries. In this process, obtaining valuable information, customers would continuously keep an eye on the CSNs platform for more useful message (Lin & Lu, 2011). Meanwhile, such content of humorous jokes and anecdotes provide a pleasant emotional experience. Users tend to closely contact CSNs in the future for perceived pleasure and happiness (Van der Heijden, 2004). Additionally, values and emotions of common topics match with those of customers and this may strike a responsive chord in their hearts. Therefore, consumer sense of identity could be enhanced making them more likely to revisit and participate in CSNs (Zhou et al., 2013). Furthermore, previous studies have examined the perceived value as antecedents to commitment, loyalty, and attachment (Cheng et al., 2009; Gruen et al., 2006; Gummerus et al., 2012; Kuo & Feng, 2013). Based on this, the following hypotheses are proposed:

H2a: Functional value has a direct and positive influence on stickiness;

H2b: Hedonic value has a direct and positive influence on stickiness;

H2c: Social value has a direct and positive influence on stickiness.

3.3. Stickiness and WOM

Some scholars have suggested that stickiness can be shown in the form of revisits, repeat purchases, enhancement of relationship, and positive suggestions. Therefore, customers' stickiness to a certain website is formed when the customers have adopted a positive attitude towards the contents, features, products, and services of the website and have developed such loyal behavior as attachment (Wu, Chen, & Chung, 2010). In other words, stickiness is a representative indicator of customer loyalty in a cyber-context.

Much work has been done in previous studies about the relationship between customer loyalty and WOM. For instance, based on their studies of online banking service, Yang and Peterson (2004) pointed out that loyal customers were inclined to develop a positive WOM. Besides, Jones and Reynolds (2006); Gruen, Osmonbekov, and Czaplewski, 2006 also believed that customer loyalty is the antecedent of WOM. Because of this, we consider that Stickiness can also bring about the WOM effect so the following hypothesis is proposed:

H3: Stickiness has a direct and positive influence on word of mouth.

3.4. Mediating effects of customer value creation

Additionally, it can be seen that customer engagement with social media can influence the co-creation of hedonic value (emotional experience), functional value (information), and social value (identity) resulting in customers' stickiness to CSNs. Customers with a higher level of engagement are likely to initiate "interesting interaction" by posting extremely teasing and hilarious contents with vivid languages. This kind of interaction will bring pleasant emotional experience to customers, which will in turn generate positive attitude towards CSNs (Hollebeek, 2011) and result in the probability of revisits. Individuals engaged in CSNs are constantly playing an active role (Bijmolt et al., 2010). With a higher level of participation in interactions, they could obtain such values as common knowledge of life, product knowledge, and use skills. Therefore, they are more willing to establish a longer relationship with related CSNs. Apart from this, highly engaged customers are more willing to expand their social networks through social media so that they can find those customers who share the same interests, goals, or needs and then communicate with them. In the above process, customers are likely to

develop a sense of belonging and identification with each other, and may develop those in CSNs at the same time. Then, a stable visit time length and frequency will be guaranteed (Cheng et al., 2009). Thus, customer engagement can increase their time and energy (stickiness) devoted to CSNs through the effective means of value co-creation. Because of this, the following hypothesis is proposed:

H4: Customer value creation plays the role mediation between customer engagement and stickiness.

The sub-hypotheses of this hypothesis are as follows:

H4a: Functional value mediates the relation between conscious participation and stickiness;

H4b: Hedonic value mediates the relation between conscious participation and stickiness;

H4c: Social value mediates the relation between conscious participation and stickiness;

H4d: Functional value mediates the relation between enthusiasm and stickiness;

H4e: Hedonic value mediates the relation between enthusiasm and stickiness;

H4f: Social value mediates the relation between enthusiasm and stickiness;

H4g: Functional value mediates the relation between social interaction and stickiness;

H4h: Hedonic value mediates the relation between social interaction and stickiness;

H4i: Social interaction mediates the relation between social interaction and stickiness.

Based on the theoretical analysis discussed above, a conceptual model is developed, seeing Fig. 1. This model has explained the influence mechanism of the different dimensions of customer engagement on stickiness. That is, customer engagement not only has a direct influence on stickiness, but also exerts an indirect one through customer value creation.

4. Research methodology

4.1. Research setting and participants

Sina, one of China's most popular microblog platforms, is used as the object of our research. By March 2013, the number of users of this website topped 536.5 million, among which the enterprise users exceeded 300,000, making it an ideal object for study of company social networks. The enterprises that have founded their microblog websites are mainly those whose business is linked closely with consumer life, such as catering and hospitality, software and information technology services, electronic consumer products, and cosmetics. One primary reason for choosing these websites as our object is that they are at the top of enterprise microblog rankings so far that users' interaction, participation, and attention are concerned. Another reason is that the contents of microblog are updating at least once a week. With new information posted, it has created a better environment for customers to interact with other customers and the enterprise that makes it possible to generate valuable information for both customers and the enterprise. Thus, only users who have experience in the above enterprise microblogs are eligible for participating in the survey.

4.2. Measures

The questionnaire in this paper is generated based on previous measures. For the measurement of customer engagement—conscious participation, enthusiasm, and social interaction are developed based on the study of Vivek (2009). The

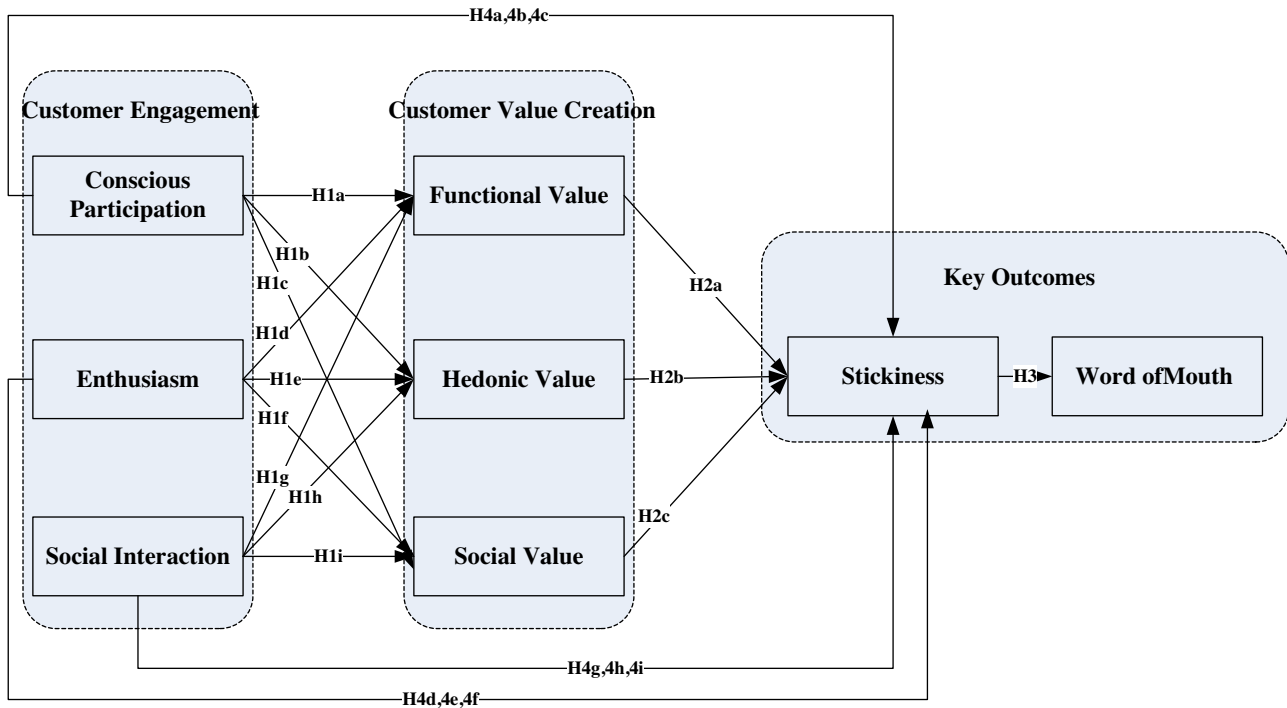


Fig. 1. The conceptual model.

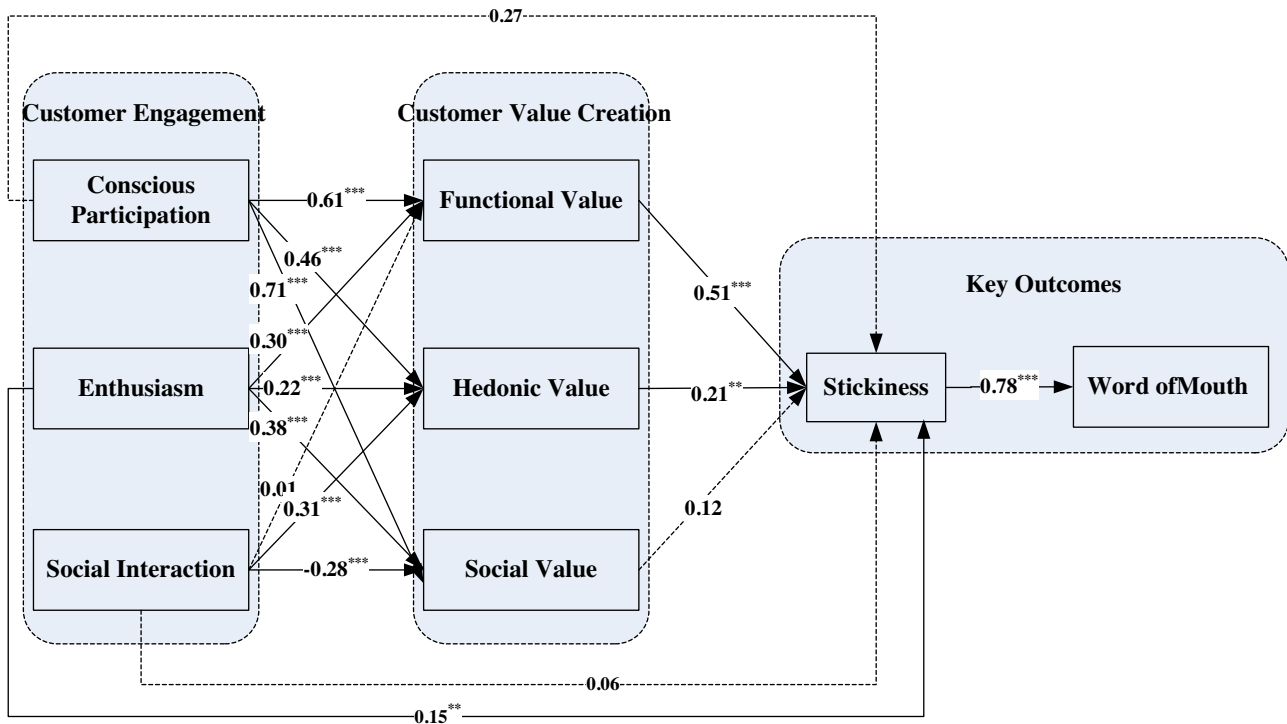


Fig. 2. Results of the model. Note: Significant at: *p < 0.05, **p < 0.01, ***p < 0.001.

measurement of functional value of customer value co-creation refers to the studies of Jahn and Kunz (2012). The measurement of hedonic value and social value of customer value creation is designed after consulting the studies by Kuo and Feng (2013). The measurement of stickiness combines the studies of Lu and Lee (2010) and Kumar Roy et al. (2014) while the measurement of WOM comes with consultation of the studies by Jahn and

Kunz (2012). With the help of these studies, the questionnaire matches the Chinese context and the characteristics of Sina's enterprise microblogs. The exploratory research subjects include a professor of marketing, three doctoral students of marketing, and 112 customers. All items were measured using a seven-point Likert scale from "strongly disagree" to "strongly agree" (see Appendix A).

Table 1
 Demographic characteristics (n = 260).

Demographic profile	Frequency	Percent	
Age	Less than 25	44	16.84%
	25–35	174	67.09%
	36–45	37	14.03%
	>= 45	5	2.04%
Gender	Male	116	44.64%
	Female	144	55.36%
Education	High school or below	5	1.79%
	Junior college or Undergraduate	216	82.91%
	Post graduate	39	15.30%
Time of participation	Less than 3 month		
	3–6 months	47	18.11%
	6–12 months	89	34.18%
	More than 12 months	124	47.71%

4.3. Data collection procedures

This paper has collected its data with questionnaires posted on sojump (<http://www.Sojump.com>) which is a popular online survey platform in China. To ensure the validity of the data collected, the payment service for samples provided by sojump has been used, which includes more than 2.6 million samples from different cities. By asking screening questions, frequent users of the enterprise’s microblog are selected. Sojump grants 100 points as a reward for those users who have offered effective answers to the questionnaire, and users can exchange the points for gifts. Our formal investigation began in mid-June of 2014 and ended in mid-September of the same year. Records show that 685 users responded and submitted their questionnaires. After removing those samples which were blank, with too many unanswered questions, shorter than the time baseline (for instance, scanning the questionnaire in less than 5 min), or illogical answers to tricky questions (For instance, the meaning of a question is just the opposite to a previous question, but the user who answers the question without noticing the trap there), altogether 260 valid questionnaires were obtained. Among the respondents, 55% were females, 67% were between 26 and 35, and 83% had a junior college or college degree; demographics that match with the orientation and group characteristics of Sina’s microblog websites. Approximately 50% of respondents have followed the enterprise’s microblog for more than one year, which guaranteed a certain degree of knowledge of the respondents about Sina’s microblogs. Therefore, the samples collected represent the customers on this company social network. Table 1 shows the demographics of the valid samples.

5. Data analysis and results

Structural equation modeling (SEM) is applied to test the current research hypotheses empirically. Following the two-step approach recommended by Anderson and Gerbing (1992), we first examined the measurement model to verify the reliability and validity of the instrument and then assessed the structural model. This paper, with SPSS 16.0, adopted descriptive analysis to find demographic characteristics of the sample, as well as Cronbach’s alpha to test reliability. Using LISREL8.70, confirmatory factor analysis was conducted to prove the validity of each instrument, while structural equation modeling was used to test hypotheses.

5.1. Tests of measurement model

The cronbach’s coefficients of each scale (Cronbach, 1990) ranged from 0.770 to 0.910, and exceeded the threshold level of 0.70 suggested by Nunnally, Bernstein, and Berge (1967), thus suggesting that these data were reliable (see Table 2). In addition, the composite reliability (CR) of latent variables was between 0.786

and 0.867, which was also higher than 0.70, the minimum critical value suggested, meaning that the scale used here has good internal consistency (Dillon & Goldstein, 1984).

Our validity analysis involved both convergent and discriminant validity. It can be seen in Table 2 that the standardized factor loadings of all the elements measured were between 0.66 and 0.90, which was higher than 0.6 meaning that all have statistical significance (Hair et al., 2006). The average variance extracted (AVE) values was between 0.568 and 0.687 (as shown in Table 2), which means all the variables have good convergent validity (Fornell & Larcker, 1981). Meanwhile, the square roots of AVE of the latent variables were larger than the correlation coefficients and all were larger than 0.5 (as shown in Table 3). This means that the scale used here has fairly good discriminant validity.

5.2. Tests of structural model

The structural relationships between the latent variable were examined using covariance structure analysis. The fitting tests found the following: $\chi^2 = 710.78$, $df = 237$, $RMSEA = 0.088$, $GFI = 0.85$, $AGFI = 0.76$, $CFI = 0.96$, $NFI = 0.94$, $NNFI = 0.95$, and $IFI = 0.96$. The data reached the critical values suggested, indicating that the fitting level of the hypothesis model and the data was approximately acceptable. The results of the hypothesis testing are shown, in Fig. 2 and Table 4, that H1g and H2c were rejected while H1i received a negative result, while the others were verified.

5.3. Tests of mediating effects

Mediation exists if the coefficient of the direct path between the independent variable and the dependent variable is reduced when the indirect path via the mediator is introduced into the model (Kuo & Feng, 2013). In this paper, 9 paths were examined.

Firstly, according to Fig. 2, social interaction did not significantly induce functional value. Therefore, functional value did not mediate the relation between social interaction and stickiness. And social value had limited influence on stickiness. Accordingly, social value did not mediate the effects of customer engagement on stickiness.

Secondly, to test mediating effects of customer value creation on the relation between customer engagement and stickiness for the other 5 paths, we relied on the three-step mediated regression approach that Baron and Kenny (1986) recommend (The results are shown in Tables 5 and 6). The amount of the relationship between enthusiasm and stickiness accounted for by functional value was $(0.37 - 0.15) = 0.22$, which represented 59.46 percent of the direct effect. The amount of the relationship between enthusiasm and stickiness accounted for by hedonic value was $(0.37 - 0.15) = 0.22$, which also represented 59.46 percent of the direct effect. When functional value was in control, the path coefficient of conscious participation-stickiness was not significant. When hedonic value was in control, neither of the path coefficients of conscious participation-stickiness and social interaction-stickiness was significant. Based on these findings, it is concluded that customer value creation serves as a partially mediator of five links: conscious participation-functional value-stickiness, conscious participation-hedonic value-stickiness and social interaction-hedonic value-stickiness are fully mediating paths; enthusiasm-hedonic value – stickiness and enthusiasm-functional value – stickiness are partially mediating paths.

6. Discussion

First, customer engagement has a direct and positive influence on customer value creation. Conscious participation, enthusiasm, and social interaction can promote the generation of functional, hedonic, and social values co-created by customers. This conclusion

Table 2
Cronbach's Alpha, Composite reliability, Factor loading, and average variance extracted (AVE).

Constructs	Items	Factor loading	T-Value	Cronbach's alpha	Composite reliability	AVE
Conscious Participation	CP1	0.77	14.06	0.910	0.852	0.658
	CP2	0.80	14.99			
	CP3	0.86	16.53			
Enthusiasm	EN1	0.66	11.26	0.845	0.849	0.586
	EN2	0.77	13.88			
	EN3	0.78	14.12			
	EN4	0.84	15.73			
Social Interaction	SI1	0.87	16.41	0.770	0.849	0.653
	SI2	0.77	13.89			
	SI3	0.78	14.16			
Functional Value	FV1	0.80	14.38	0.841	0.786	0.648
	FV2	0.81	14.57			
	FV3 ^a	–	–			
	FV4 ^a	–	–			
Hedonic Value	HV1	0.83	15.48	0.837	0.831	0.622
	HV2	0.82	15.32			
	HV3	0.71	12.53			
Social Value	SV1	0.90	17.96	0.849	0.867	0.687
	SV2	0.82	15.54			
	SV3	0.76	13.81			
Stickiness	ST1	0.77	13.65	0.864	0.796	0.568
	ST2	0.78	13.92			
	ST3	0.74	13.05			
Word of mouth	WOM1	0.77	14.08	0.893	0.807	0.583
	WOM2	0.78	15.33			
	WOM3	0.74	13.57			

^a Items that are deleted in the final analysis due to high cross loadings.

Table 3
Discriminant validity: Latent variable correlations with Square Root of AVE (average variance extracted) along lead diagonal.

Constructs	1.CP	2.EN	3.SI	4.FV	5.HV	6.SV	7.ST	8.WOM
1. Conscious Participation	0.81							
2. Enthusiasm	0.40	0.77						
3. Social Interaction	0.63	0.34	0.81					
4. Functional Value	0.72	0.53	0.51	0.81				
5. Hedonic Value	0.76	0.52	0.68	0.61	0.79			
6. Social Value	0.67	0.56	0.30	0.68	0.48	0.83		
7. Stickiness	0.53	0.52	0.35	0.75	0.56	0.59	0.76	
8. Word of mouth	0.54	0.56	0.50	0.56	0.68	0.46	0.73	0.76

Note: Diagonal elements show the Square Root of average variance extracted (AVE).

has supplemented the theory proposed by Vivek (2009) that the single variable of engagement can result in customer value (functional and hedonic values). There are two differences between our results and those of other scholars. Firstly, social interaction does not have a positive influence on functional value – H1g is rejected. A possible explanation for this rejection is that the functional value of Sina's enterprise microblog is demonstrated mainly in the information posted on the website. Therefore, this functional value, which is related to the usefulness and timeliness of the information posted on the website, is a relatively objective existence there. In contrast, social interaction mainly exists among customers. This kind of interaction mainly has an influence on the interpersonal value. Secondly, social interaction has a negative influence on social value – H1i receives a negative result. A possible explanation for this result is that most users of Sina's enterprise microblog are unfamiliar with each other. Thus, it does not match their original intention for the customers to get "unfamiliar" social value from people of this group. For instance, some customers registered on the website with their personal information with the mere intention of getting the information about housing price and opening time of new buildings. However, some businesspeople make use of customer telephone numbers and/or email addresses obtained from this platform and try to sell their buildings with no regard to the other party's time or occasion. The kind of social interaction has annoyed people. Therefore, it will not promote social value. On the contrary, it only hinders customers from obtaining good social value.

Table 4
Result of hypotheses.

Hypothesis	Standardized Coefficient	T-value	Conclusion
H1a	0.61***	8.58	Supported
H1b	0.46***	6.05	Supported
H1c	0.71***	8.45	Supported
H1d	0.30***	4.61	Supported
H1e	0.22***	3.78	Supported
H1f	0.38***	6.17	Supported
H1g	0.01	0.15	Not Supported
H1h	0.31***	4.29	Supported
H1i	-0.28***	-3.63	Not Supported
H2a	0.51***	5.42	Supported
H2b	0.21**	2.61	Supported
H2c	0.12	1.61	Not Supported
H3	0.78***	9.46	Supported

Note: Significant at: * p < 0.05, ** p < 0.01, *** p < 0.001.

Table 5
Mediation tests of functional value.

	CE → FV	FV → ST	(CE → ST)	CE → ST
CP	0.61***	0.51***	0.42***	NS
EN	0.30***	0.51***	0.37***	0.15**

Note: CE: customer engagement.

Table 6
 Mediation tests of hedonic value.

	CE → HV	HV → ST	(CE → ST)	CE → ST
CP	0.46***	0.21***	0.42***	NS
EN	0.22***	0.21***	0.37***	0.15**
SI	0.31***	0.21***	0.05*	NS

Secondly, customer value co-creation partially mediates the relation between customer engagement and stickiness. Based on the validation method of mediator variables provided by Baron and Kenny (1986), this paper conducted an analysis on the mediating effect of customer value creation (The results are shown in Tables 5 and 6). The analysis shows that when functional value is in control, the path coefficient of conscious participation-stickiness is not significant. This means that functional value fully mediates the relation between conscious participation and stickiness. Thus, H4a is verified. Although the path coefficient of enthusiasm-stickiness decreases, the path coefficient remains significant. It indicates that functional value mediates the relation between enthusiasm and stickiness. Thus, H4d is verified. Meanwhile, functional value does not mediate the relation between social interaction and stickiness. Thus, H4g is not verified. The main reason for this is that, in the context of this study, social interaction has limited influence on functional value. When hedonic value is in control, neither of the path coefficients of conscious participation-stickiness and social interaction-stickiness is significant, which means that hedonic value fully mediates the relationship between the two paths of conscious participation-stickiness and social interaction-stickiness. Thus, both H4b and H4e are verified. Even then, the path coefficient of enthusiasm-stickiness decreases, the path coefficient remains significant. This means that hedonic value partially mediates the relationship between enthusiasm and stickiness. Therefore, H4h is verified. Additionally, social value does not mediate the relation between customer engagement and stickiness, so H4c, H4f, and H4i are not verified. The main reason for this is that social value has limited influence on stickiness in the context of this paper.

Finally, value creation has a direct and positive influence on stickiness, which further influences WOM. Different from other studies on the relation between customer value and customer loyalty, the present analysis shows that social value has no influence on stickiness. Therefore, H2c is rejected. A possible reason for this rejection is that the negative social value obtained from Sina's enterprise microblog cannot fully generate stickiness or positive WOM from customers.

7. Conclusion

Based on studies on company social networks and surveying users of Sina's enterprise microblog as objects, this paper has explored the relationship among customer engagement, customer value creation, stickiness and WOM as well as the mediating effect of customer value creation by using the structural equation model. The conclusion of this study can be summarized in the following way.

First, in general, conscious participation, enthusiasm, and social interaction – the three dimensions of customer engagement, can exert a direct and positive influence on customer value co-creation. 1) Customers participate in activities with an intention and some cognition. Their cognition varies with their reason, emotion, or society orientation. The value co-created by customers also varies – reason-oriented customers attach more importance to the usefulness of information; emotion-oriented customers focus more on the process of experience; and society-oriented customers are more willing to have some communication with other customers who share the same interests and develop a sense of belonging and

identity in the process. 2) People with enthusiasm are willing to take risks, get rid of anxiety and sense of uncertainty, thus enhancing customer trust with other members of company social networks and information posted on these networks. The interaction built upon this trust can directly improve customer perception of the value created. 3) The interactions among members of company social networks can provide an effective means for them to get to know each other, establish friendship, or other close relationships. In the process, customers can develop a strong feeling of dependency and belonging and perceive pleasure from the interactions between close customers.

Secondly, studies show that customer value creation mediates the relation between customer engagement and stickiness. When customers consciously participate in CSNs, functional and hedonic values completely mediate the relationship between the cognition-based engagement and stickiness. When customers get engaged in CSNs with enthusiasm, functional and hedonic values partially mediate the relationship between the emotion-based engagement and stickiness. When customers interact with other members of CSNs, hedonic value completely mediates with the behavior-based engagement and stickiness. Therefore, the mediating effect of customer value creation has been verified. In the process of maintaining the stickiness between customers and CSNs, when customer cognition is engaged, the functional and hedonic values co-created by both customers and enterprises are the two key factors contributing to stickiness. Moreover, customer emotional engagement has a direct influence on stickiness. It can also effectively enhance customer stickiness to CSNs by increasing the hedonic value co-created by customers and enterprises. Only when customers are engaged behaviorally can hedonic value develop stickiness.

Thirdly, it is manifested from the study that customer perception of functional value (information) and hedonic value (pleasure) co-created by both parties really enhance stickiness. However, the degree of influence of functional and hedonic values on stickiness is varied and is treated differently. Our finding coincides with those of previous studies (Cheng et al., 2009; Kang et al., 2014), which further proves that the theory of value co-creation has a wider scope of applicability. Moreover, customer stickiness to CSNs does bring about WOM.

8. Implications

8.1. Managerial implications

Firstly, establishment of customer engagement with CSNs is an effective way of making CSNs into a new generation of competitive marketing channels. Management of enterprises should be fully aware of the fact that a good mastery of CSNs – the new marketing channel, plays an important role in the promotion of a business enterprise. Therefore, it is far from enough for enterprises to build CSNs and attract some visitors. What enterprises should do is improve them and make it an active community in which customers should be completely engaged, involved, and immersed. This will enable enterprises to enhance the value co-created by customers and guarantee customer stickiness to CSNs and WOM.

Secondly, attaching more importance to customer value creation, especially functional and hedonic values, is an important driving factor for CSNs to attract customers. Researches show that customer value creation, especially functional and hedonic values, is keys to stickiness. If customer engagement can be viewed as a competitive edge to enterprises, customer value co-creation will be an important factor for enterprises to turn this competitive advantage into their market and at the same time develops the stickiness of their social networks. In this particular age of socialized media,

adequate, timely, and useful information on Internet and a pleasant interactive experience are important for enterprises to succeed in a diversified competitive space.

8.2. Theoretical implications

The present study has enriched the existing probes in the fields of customer engagement and customer value creation and verified the previous theoretical argument (Brodie et al., 2013; Hollebeek, 2013; Jaakkola & Alexander, 2014). Firstly, the mediating effects of customer value creation on the path of customer engagement-stickiness were verified: 1) Functional and hedonic values completely mediated the relationship between conscious engagement and stickiness; 2) Functional and hedonic values partially mediated the relationship between enthusiasm and stickiness; 3) hedonic value completely mediated with social interaction and stickiness. This conclusion extended the scope of existing studies on the relationship between customer engagement and stickiness. Previous studies point out that customer engagement can bring about relationship maintenance between customer and enterprise (e.g. Commitment, satisfaction, and loyalty; Jahn & Kunz, 2012), but not investigate transformation mechanism from engagement to key outcomes. This research is one of the earliest studies proved, from an empirical perspective, that customer value creation serves as an important driving factor for customer engagement to generate stickiness and that customer value creation mediates the relationship between them.

Secondly, our findings have enriched the existing studies by exploring deeper into the relationship between customer value creation and stickiness in marketing, and have provided a preliminary explanation for the different degrees of influence of value co-created by customers and enterprises. The empirical results indicated that the effects of functional value on stickiness, hedonic value on stickiness, and social value on stickiness were varying. Under company social networks, the biggest factor for stickiness is functional value and hedonic value second place; social value, however, has no significant effect. This finding implies that company social networks' stickiness may primarily depend on individual-related factors rather than interpersonal factors. Our finding coincides with those of previous studies, which concluded that information (Foster, Francescucci, & West, 2010; Hajli, Sims, 2014a; Hajli, Lin, 2014b) and entertainment (Dholakia, Bagozzi, & Pearo, 2004) constituted the two vital benefits appealing to users of social media. Customer value creation has been researched in this study, which approved that customer value takes an important role not only in a retailing context (Sweeney & Soutar, 2001) but also in a networking and social context.

8.3. Limitation and future research

The major limitations of this paper are listed here. Firstly, all the data in this study are cross-section information at the same point of time. Future studies can track and focus on the different phases of same group consumer engagement on stickiness through consumer value creation. Secondly, the CSNs included in our sample were Chinese context, whose users may be distinct from ones with other cultural backgrounds. For example, Singh, Zhao, and Hu, 2005 find that local websites in India, China, Japan, and the United States differ significantly in their cultural dimensions. Therefore, additional studies should test our proposed model in other cultural contexts. In regards to other CSNs, such as brand communities, Renren, and WeChat, the applicability of the proposed model need to be further verified. Thirdly, this paper has solely studied the influence of customer engagement on customer value creation and stickiness, without taking into account the motivation or driving factors of customer engagement. Future research needs to investigate the

influence of the motives on customer engagement. Fourthly, this study does not consider the control variables, such as students and non-students have different influences on engagement (Alt, 2015). And how demographic differences (gender, blog usage, blog experience and student or not) would affect the antecedents of blog stickiness (Lu & Lee, 2010; Hajli & Lin, 2014). This point will be the theme of my future research. Lastly, because the purpose of this research is to investigate the mediating effect of customer value creation on the relationship between customer engagement, customer value creation, stickiness, and WOM, this study treats stickiness as a single variable. However, stickiness is a complex phenomenon. Lu and Lee (2010), for example, have identified two dimensions of stickiness. Thus, future work should consider this issue.

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Appendix A. . Survey measurement scales

Customer engagement

Conscious participation

CP1: Anything related to X enterprise microblog grabs my attention.

CP2: I like to learn more about X enterprise microblog.

CP3: I pay a lot of attention to anything about X enterprise microblog.

Enthusiasm

EN1: I spend a lot of my discretionary time on X enterprise microblog.

EN2: I am heavily into X enterprise microblog.

EN3: I am passionate about X enterprise microblog.

EN4: My days would not be the same without X enterprise microblog.

Social interaction

SI1: I love participating in X enterprise microblog with my friends.

SI2: I enjoy taking part in X enterprise microblog more when I am with others.

SI3: Participation in X enterprise microblog is more fun when other people around me do it too.

Customer value creation

Functional value

FV1: The content (information) of X enterprise microblog is helpful for me.

FV2: The content (information) of X enterprise microblog is useful for me.

FV3: The content (information) of X enterprise microblog is functional for me.

FV4: The content (information) of X enterprise microblog is practical for me.

Hedonic value

HV1: I feel pleased and relaxed in X enterprise microblog.

HV2: I gain joy and happiness in X enterprise microblog.

HV3: I feel inspired in X enterprise microblog.

Social value

SV1: I can make friends with people sharing common interests with me in X enterprise microblog.

SV2: X enterprise microblog helps strengthen my connections with other members.

SV3: I can expand my social network through participation in X enterprise microblog.

Stickiness

ST1: I would stay for a long time while browsing X enterprise microblog.

ST2: I intend to prolong my stays on X enterprise microblog.

ST3: I would visit X enterprise microblog frequently.

Word of mouth

WOM1: I introduce X enterprise microblog to other people.

WOM2: I recommend X enterprise microblog to other people.

WOM3: I say positive things about X enterprise microblog to other people

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