

EFFECTS OF CUSTOMERS' PSYCHOLOGICAL CHARACTERISTICS ON THEIR ENGAGEMENT BEHAVIOR IN COMPANY SOCIAL NETWORKS

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Drawing upon customer engagement and value cocreation theories, in the context of company social networks, we examined the influence mechanism of the 3 important psychological characteristics of need for cognition, self-congruity, and psychological ownership, on customer engagement behavior in terms of human interactivity, information sharing, and word-of-mouth referral. We also explored whether or not these 3 behaviors then influenced value cocreation and stickiness. Data from WeChat official account users were analyzed using SmartPLS 2.0 and structural equation modeling. Results showed that self-congruity and psychological ownership significantly influenced the 3 dimensions of customer engagement behavior, which further influenced value cocreation and stickiness. The effects of need for cognition on human interactivity and information sharing were also significant, but the influence of need for cognition on word-of-mouth referral was nonsignificant.

Keywords: company social networks, customer psychological characteristics, customer engagement behavior, value cocreation, stickiness.

With the rapidly growing popularity of social networks, enterprises are setting up their own pages to communicate directly with their customers—such as enterprise microblogs and WeChat official accounts—and these constitute *company social networks* (Sofia Martins & Patrício, 2013). Interaction via these networks promotes a shift of the consumer's role from traditional passive information receiver to information cocreator (Jahn & Kunz, 2012). Company

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social networks (CSNs) have been described as bringing about a revolution in the role of customers' interaction with enterprises, with researchers and practitioners agreeing that *customer engagement* can integrate the interactive consumer and social network to enhance corporate performance (Brodie, Hollebeek, Jurić, & Ilić, 2011; Jaakkola & Alexander, 2014; van Doorn et al., 2010), through sales growth, gaining a competitive edge, and improving profitability. Customers who are highly engaged on social platforms play an important role in activities such as cocreating customer experience and value as well as recommending products, services, or brands to others (Jaakkola & Alexander, 2014). In view of the commercial importance of CSNs and increasing academic interest, customer engagement was listed as a key research priority for the period 2010–2012 (Marketing Science Institute, 2008). Researchers such as Brodie et al. (2011), Jaakkola and Alexander (2014), and Jahn and Kunz (2012), have focused on customer engagement.

Researchers have examined the factors that have an impact on customer engagement and the influence mechanism, namely, information quality (Poor Rezaei & Heinze, 2014), relationship quality and participating motivation (Barhemmati & Ahmad, 2015), brand community identity (Poor Rezaei & Heinze, 2014), and customer involvement (Hollebeek, Glynn, & Brodie, 2014). However, the individual characteristics and online customer behavior factors have not been considered. It has scarcely been mentioned how customers, as coproducers of social network information, with their intrinsic psychological characteristics or emotional response, influence customer engagement. Brodie et al. (2011) have pointed out that customer engagement is a long-term and intimate relationship process established through cognition–emotion–behavior. In other words, customer engagement behavior (CEB) needs to go through a psychological cognitive and emotional experience process. In this study, we have examined the potential psychological elements that promote customers' engagement for the enhancement of business performance and customer well-being.

Information is the primary constituent element in the context of CSNs (Jahn & Kunz, 2012). Hennig-Thurau, Gwinner, Walsh, and Gremler (2004) found that seeking information was one of the main motives for customers' online word-of-mouth diffusive behavior, especially with a positive will to maintain a good relationship with CSNs. In their empirical research, Kuo and Feng (2013) concluded that acquiring product or brand information, understanding new technology, and product use, were some of the main benefits that customers perceived for access to CSNs. Therefore, we proposed the following hypotheses: **Hypothesis 1a:** The need for cognition will positively influence human interactivity.

Hypothesis 1b: The need for cognition will positively influence information sharing.

Hypothesis 1c: The need for cognition will positively influence word-of-mouth referral.

Because the relationship is integral to maintaining social networks, the intimate long-term relationship between customer and enterprise has been the focus of the study of CSNs (Kang, Tang, & Fiore, 2014). Customers' psychological ownership reflects their feeling that a product or company is a part of themselves, and this sense of ownership is a driving factor for them to maintain the relationship (Pierce, Kostova, & Dirks, 2001). Reynoso (2010) pointed out that customers who perceived that they had psychological ownership would become actively involved in interaction. They were not only buying more goods, but also had a desire to share their experience, and were convincing others to buy, offering constructive suggestions for products or services, helping to test new products, and even helping companies select new employees. Therefore, we proposed the following hypotheses:

Hypothesis 2a: Psychological ownership will positively influence human interactivity.

Hypothesis 2b: Psychological ownership will positively influence information sharing.

Hypothesis 2c: Psychological ownership will positively influence word-of-mouth referral.

The fundamental purpose of CSNs is for the enterprise to transfer ideas, products, and services information to the customer (Hajli, 2014). Whether or not customers evaluate products or services favorably directly relates to the ability of the enterprise to build loyalty. Self-congruity is essentially individuals' psychological evaluation of the consistency between their self-concept and perceived product or service image. Customers of CSNs tend to believe that a specific network's characteristics are more attractive when they match the individual's own characteristics (Sofia Martins & Patricio, 2013). Customers will thus have more positive attitudes and emotions about the CSNs in which the characteristics match their own than those in which the characteristics differ from theirs (Aaker, 1999). When the relationship is close, customers may be more willing to participate actively in interaction and engagement with CSNs. Therefore, we proposed the following hypotheses:

Hypothesis 3a: Self-congruity will positively influence human interactivity.

Hypothesis 3b: Self-congruity will positively influence information sharing.

Hypothesis 3c: Self-congruity will positively influence word-of-mouth referral.

CEB with CSNs can increase the customers' perceived benefit and value. CEB may derive from customers satisfying their needs during customer participation, or from the benefit received from relationships (Gummerus, Liljander, Weman, & Pihlström, 2012). Individuals with a high level of engagement are likely to initiate an interesting interaction, which will produce a pleasant emotional

experience and, in turn, generate a positive attitude toward CSNs (Hollebeek et al., 2014). Highly engaged customers will consistently obtain values such as living knowledge, product knowledge, and user skills (Bijmolt et al., 2010). Therefore, we proposed the following hypotheses:

Hypothesis 4a: Information sharing will positively influence value cocreation.

Hypothesis 4b: Human interactivity will positively influence value cocreation.

Hypothesis 4c: Word-of-mouth referral will positively influence value cocreation.

Furthermore, customer *value cocreation* is an important driving factor for *stickiness*, which involves not only the duration of the customer's visit to the website, but also CSNs' ability to retain customers (Kang et al., 2014). In the social media context, having perceived that they have experienced pleasure and happiness, users tend to access CSNs again (van der Heijden, 2004). When topics on CSNs match customers' own emotions and values, they are likely to feel comradeship with other users (Zhou, Wu, Zhang, & Xu, 2013). Therefore, we proposed the following hypothesis:

Hypothesis 5: Value cocreation will positively influence stickiness.

We developed a conceptual model based on this theoretical analysis to explain the influence mechanism of psychological drivers on CEB, which may then directly influence customer value cocreation and stickiness.

Method

Participants

We targeted users of WeChat, of whom there were over 600 million in October 2014 (<http://www.anfone.com/WXYHL/2014-6/53751.html>). Of the WeChat users, enterprise users exceeded 8 million, making it an ideal subject for a study of CSNs. We conducted an online survey on Sojump (<http://www.Sojump.com>). The formal investigation spanned 3 months from mid June to mid September 2014. We obtained 278 valid survey forms. Of the respondents, 56% were men, 34% were younger than 20 years, 54% were aged between 21 and 30 years, and 12% were older than 31 years. In addition, 3% had completed high school, 69% had a junior college or college degree, and 28% had a postgraduate academic qualification. As approximately 61% of the respondents had used the WeChat official account for more than 6 months, they had a certain degree of knowledge about WeChat.

Measures

All measures were rated on a 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*.

The need for cognition items, (Cronbach's $\alpha = .81$; composite reliability [CR] = .88; average variance extracted [AVE] = .64) were from Lu and Lee's (2010)

model. The items are “Thinking is my idea of fun,” “I would prefer complex to simple problems,” “I like to have the responsibility of handling a situation that requires a lot of thinking,” “I really enjoy a task that involves coming up with new solutions to problems.”

The psychological ownership scales (Cronbach’s $\alpha = .78$; CR = .86; AVE = .60) were derived from Pierce et al. (2001). The items are “This is MY WeChat official account,” “I sense that X WeChat official account is OURS,” “I feel a very high degree of personal ownership for X WeChat official account,” “I sense that this is MY WeChat official account.”

The self-congruity items (Cronbach’s $\alpha = .86$; CR = .91; AVE = .78) were adapted from Sirgy and Su (2000). The items are “X WeChat official account is consistent with how I see myself,” “I am quite similar to the image of X WeChat official account,” “X WeChat official account is consistent with how I would like to see myself.”

The three constructs of CEB that we used were developed from Jaakkola and Alexander’s (2014) interpretation, namely, information sharing (Cronbach’s $\alpha = .83$; CR = .90; AVE = .75; squared multiple correlation [R^2] = .37), human interactivity (Cronbach’s $\alpha = .85$; CR = .91; AVE = .77; $R^2 = .33$), and word-of-mouth referral (Cronbach’s $\alpha = .90$; CR = .94; AVE = .84; $R^2 = .21$). Information sharing items were adapted from Lee, Yen, and Hsiao (2014). The items are “I share information, ideas, news, and opinions with friends via X WeChat official account all the time,” “I like to share personal information with friends via X WeChat official account,” “I use X WeChat official account shared information ideas, news, and opinions for decision making.”

Human interactivity items were adopted from Nambisan and Baron (2009). The items are “Most of my interactions are asynchronous in nature,” “I generally receive quick reaction/feedback from other customer members on my ideas and contributions,” “I generally receive quick reaction/feedback from X WeChat official account on my ideas and contribution.”

Word-of-mouth referral items were adapted from Jahn and Kunz (2012). The items are “I introduce X WeChat official account to other people,” “I recommend X WeChat official account to other people,” “I say positive things about X WeChat official account to other people.”

We adapted and modified the value cocreation items (Cronbach’s $\alpha = .86$; CR = .89; AVE = .58; $R^2 = .39$) from Zhang, Lu, Wang, and Wu (2015). The items are “My interactions on X WeChat official account enhance my knowledge about the products and their usage,” “My interactions on X WeChat official account help me to obtain solutions to specific product-usage-related problems,” “My interactions on X WeChat official account are enjoyable and relaxing,” “I derive fun and pleasure from the interactions on X WeChat official account,” “My

interactions on X WeChat official account expand my personal/social network,” “My interactions on X WeChat official account enhance my sense of belonging with this community.”

The outcome construct was measured by stickiness (Cronbach's $\alpha = .86$; CR = .91; AVE = .78; $R^2 = .33$; Kumar Roy, Lassar, & Butaney, 2014). The items are “I would stay for a long time while browsing X WeChat official account,” “I intend to prolong my stays on X WeChat official account,” “I would visit X WeChat official account frequently.”

Data Analysis

We used partial least squares (PLS) with SmartPLS 2.0 for related analyses. PLS is a useful second-generation multivariate causal analysis tool for examining the relationships between multiple dependent and independent latent constructs (Zhou et al., 2013). First, we calculated Cronbach's α and CR to test reliability. Second, validity was assessed with standardized factor loadings and AVE. Finally, we used standardized path coefficients and R^2 to examine the structural equation model (SEM) path.

Results

Measurement Model Testing

As Cronbach's α for each construct and the CR of the latent variables were greater than .70, sufficient internal consistency was indicated (Fornell & Larcker, 1981). As the standardized factor loadings of each item were greater than .70, ranging from .70 to .93, and all AVE values were greater than the .50 guideline, acceptable convergent validity was demonstrated (Fornell & Larcker, 1981). Finally, to ensure that the level of discriminant validity is acceptable, Fornell and Larcker (1981) recommended that the square root of the AVE for the latent variables should exceed other correlation coefficients.

Structural Model Testing

We examined the structural relationships between the latent variables using SmartPLS 2.0, a variance-based SEM technique, to produce two primary aspects of information. The first aspect was the standardized path coefficients, indicating the strength between the latent variables. The results showed that that H1c was not supported ($t = 1.52$). However, all the other hypotheses were supported (H1a, $t = 3.27$; H1b, $t = 4.39$; H2a, $t = 2.97$; H2b, $t = 4.48$; H2c, $t = 4.23$; H3a, $t = 4.63$; H3b, $t = 3.24$; H3c, $t = 2.66$; H4a, $t = 2.07$; H4b, $t = 3.41$; H4c, $t = 5.56$; H5, $t = 11.25$).

The second aspect was the R^2 for endogenous constructs, which was a measurement of the percentage of explained variances. The R^2 results of the

proposed model showed that 33% of the variance of human interactivity could be explained by need for cognition, self-congruity, and psychological ownership, 37% of the variance of information sharing could be explained by need for cognition, self-congruity, and psychological ownership, and 21% of the variance of word-of-mouth referral could be explained by need for cognition, self-congruity, and psychological ownership. Furthermore, 39% of the variance of value cocreation could be explained by human interactivity, information sharing, and word-of-mouth referral. In addition, customer value cocreation explained 33% of the variance of stickiness.

Discussion

In this study, we explored the relationships between psychological characteristics, CEB, value cocreation, and stickiness. We concluded that, firstly, in general, the need for cognition, self-congruity, and psychological ownership significantly influenced CEB. This conclusion supports previous findings by Lu and Lee (2010), Malciute and Chrysochou (2013), Jaakkola and Alexander (2014), and Barhemmati and Ahmad (2015). We found that the need for cognition positively influenced CEB, which further influenced customer value cocreation and stickiness. This result complements the inherent mechanism of previous research models. However, our hypothesis that need for cognition would positively influence word-of-mouth referral was not supported. A possible explanation for this result is that some WeChat sites always have a lot of messages, whether or not these messages are useful, for users to view when they access the site. Thus, this feature does not match users' original intention to quickly seek valuable and useful information. In addition, there are more factors generating customer engagement than relationship quality, benefits, resources, and identification. Psychological factors can also be important drivers for CEB.

Secondly, we found that CEB, in terms of human interactivity, information sharing, and word-of-mouth referral, significantly positively affected value cocreation. This finding supplements Vivek's (2009) theory that the single variable of engagement can result in customer value. Individuals with a high level of engagement probably initiate an interesting interaction, which will produce a pleasant emotional experience. With a higher level of participation in interaction, individuals will consistently obtain values such as knowledge of life, product knowledge, and user skills. Also, as highly engaged customers are willing to expand their social networks through social media, they will find, and communicate with, other customers who share their interests, goals, or needs. In addition, in this study, the path coefficient of word-of-mouth referral–value cocreation = .33, the path coefficient of information sharing–value cocreation

= .29, and the path coefficient of human interactivity–value cocreation = .17. Human interactivity had a relatively weak effect.

Finally, our results showed that customer value cocreated by both customers and CSNs enhanced stickiness. Our finding supports previous findings (Cheng, Wang, Lin, & Vivek, 2009; Kang et al., 2014), and also confirms previous findings in the field of marketing on the relationship between customer value and customer loyalty. When users have value cocreation, they tend to access CSNs again. Thus, value cocreation is an important driving factor for stickiness.

There are implications in this study for business managers, namely that, as a new marketing approach, CSNs present new requirements for companies. If an enterprise creates value to meet customers' physical needs only, the enterprise's development is undoubtedly limited. Modern enterprises should think outside the traditional frame by striving to develop new customer management strategies to satisfy people's psychological characteristics.

For enterprises owning a WeChat official account, customers with a high level of need for cognition should receive more attention. These customers' psychological characteristics are very important for value cocreation and stickiness, which further affect management performance. When managing the customer segment, staff of enterprises should identify the level of need for cognition in practical ways, such as communication and interaction with customers on CSNs, and then enterprises can deal better with their relationship with customers.

Managers should also try their best to initiate and encourage topics in which customers are interested on CSNs, so that customers will participate, interact, communicate, and give feedback. Such participation and experience will give customers a feeling of control and possession, so that they regard themselves as part of the CSN. Meeting customers' perception of psychological ownership will make them more willing to participate in the CSN, so that the stickiness of cocreation awareness toward the platform will be enhanced. This ownership awareness link between enterprise, CSN, and customers is where the differentiation advantage of an enterprise lies, and this powerful advantage is too competitive to be replicated by competitors (Barhemmati & Ahmad, 2015).

In addition, self-congruity is also a factor worthy of attention in an enterprise's implementation of social marketing. If enterprises pay close attention to the personality and characteristics of their target customers, the distance between the customers and the CSN can be narrowed. In this way, customers may gain a sense of identity with, and preference for, the CSN and the enterprise. Thus, this process may facilitate customer value cocreation behavior, such as sharing, interacting, and even recommending products, services, and brands to others, so that, ultimately, the consumer's stickiness is attained.

There are several limitations in this study. Firstly, the data were cross-sectional as all data were collected at the same time. Secondly, the CSNs in our sample were in a Chinese context, and our users may be different from those from other cultural backgrounds. We plan to address these issues in future research.

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