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The role of personalization, engagement, and trust in online communities

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Abstract

Purpose – The purpose of this paper is to explore whether brand community characteristics (perceived personalization and familiarity among members) affect brand community engagement through customer-to-customer (C2C) interaction.

Design/methodology/approach – A survey questionnaire was distributed to members of online brand communities to test the research hypotheses.

Findings – The findings showed that the relationships among the brand community constructs are significant. C2C interaction mediates the relations between the characteristic variables and brand community engagement. Furthermore, the findings revealed that brand community trust moderates the effects of perceived personalization on the quality of C2C interaction and on brand community engagement. It also moderates the relations between perceived familiarity among community members and each of brand community engagement and the quality of C2C interaction.

Practical implications – Marketers should utilize a brand community's C2C interaction for its marketing strategies. Moreover, managing brand communities by focussing on perceived personalized service and the familiarity of members can also ultimately increase community engagement by enhancing the quality of C2C communication.

Originality/value – This study argues that firms need to manage online brand communities intuitively in order to increase members' community engagement. To do so, they need to allocate spaces in which C2C communication can actively occur within brand communities, for example, in a discussion forum.

Keywords Behaviour, Brands, Community, Online shopping

Paper type Research paper

A brand community is a specialized community with no geographical limitations, and is based on a structured set of social relations among people who like particular brands (Muñiz and O'Guinn, 2001). Understanding online brand communities enables a firm to achieve a competitive advantage in terms of marketing their products and services (Jang *et al.*, 2008). Muñizand and O'Guinn (2001) define a brand community as the social relations among people who like certain brands. Furthermore, the community is not restricted geographically. Thus, a brand community, a key tool for managing customer relationships, is a special community for a particular brand. This tool allows

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members to share feedback on related products and to form a sense of community (Shin, 2013). At the same time, brand communities affect people's attitudes toward themselves and to the brands. Such communities attract highly loyal customers and boost member loyalty through community integration and other mechanisms (McAlexander *et al.*, 2002; Muñiz and O'Guinn, 2001).

A number of studies emphasize the need to examine the characteristics of brand communities and their impact on customer behavior (Brodie *et al.*, 2013; De Valck *et al.*, 2009). A few studies illustrate the complex relationships among the variables related to brand communities, and explain the mechanism underlying these relationships. Moreover, the moderating variables that control the correlations among antecedents and consequences have rarely been studied (Shen *et al.*, 2010). Nambisan and Baron (2007) found that managers should study their customers' engagement in online brand communities. In addition, other scholars have noted the importance of brand community engagement (Algesheimer *et al.*, 2005; Schau *et al.*, 2009). However, almost no studies exist on the conceptual framework of customer engagement in online brand communities in connection with marketing (Brodie *et al.*, 2013). Additionally, very few studies exist on brand community engagement (Habibi *et al.*, 2014). Furthermore, few studies have explored the brand community characteristics that cause brand community engagement, or the paths through which these characteristics affect brand community engagement.

Given this gap, this study explores the importance of perceived personalization and perceived familiarity among community members in promoting brand community engagement. The purpose of this study is to identify the moderating effect of brand community trust in a conceptual framework. The mediating effects of the quality of customer-to-customer (C2C) interactions and the moderating effects of brand community trust are analyzed with regard to the relationship between the independent variables and the dependent variable using a structural equation analysis. This study raises and attempts to find solutions to the following issues:

(1) What characteristics of brand communities induce brand community engagement among customers?

(2) Can the quality of C2C communication mediate the relationship between the two brand community variables (perceived personalization and familiarity among community members) and brand community engagement?

(3) Can brand community trust moderate the relationship between the two brand community variables (perceived personalization and familiarity among community members) and brand community engagement?

Brand community

Brand communities are either physical or virtual spaces in which people attracted to particular brands socialize (McAlexander *et al.*, 2002; Muñiz and O'Guinn, 2001). A number of reasons exist for using such communities, including obtaining information, developing one's knowledge and skills with regard to particular products, and enjoyment or socialization (Zaglia, 2013).

Various types of online communities exist, depending on the operational objectives, scope of activities, method of formation, and the entity that creates the community. In terms of creating the community, corporation-led communities, and customer-led communities exist. To foster positive customer attitudes toward particular brands,

products, or services, corporations form corporation-led communities. Customers interested in particular brands or products share their experiences and information or make group purchases by forming customer-led communities. The influence of customer-led communities is growing, because word-of-mouth can deliver positive or negative information rapidly to potential customers.

Customer-led communities attract people with similar interests, such as parenting, marriage, fashion, interiors, music, and favorite celebrities, and these people share such specialized information on the internet. Given these similar interests, community members have strong ties with one another. Thus, some large communities have strong marketing power and the potential to attract other customers.

Among the many types of brand communities, this research specifically examines online communities. In general, an online community is defined as a form of communication among online social groups based on interactions or group purchases and exchanges among people with similar interests.

C2C interaction in brand communities

In brand communities, interactions play a crucial role. In fact, active interactions seem to determine the existence of brand communities. The internet has facilitated interactions among numerous people around the world. As a result, many customers' decisions are influenced by their group or society in a virtual space, such as a brand community. Thus, they are more likely to be influenced by members with similar interests, which indicates that they rarely make decisions independently (Bruhn *et al.*, 2014; Muñiz and O'Guinn, 2001). In addition, previous studies suggest that these interactions affect their loyalty to the communities (Chen *et al.*, 2009).

With regard to interactions, Bruhn *et al.* (2014) define C2C interactions as a collaborative exchange process in a brand community of at least two customers who use the same brand. Their interactions feature mutual benefits, interdependencies, and the exclusion of opportunistic behavior (Sepulveda and Gabrielsson, 2013). Initial C2C interactions focussed on face-to-face interactions between service providers and customers. However, today's C2C interactions frequently occur in the invisible online virtual space (Gruen *et al.*, 2005). C2C interactions in online communities have a positive impact on loyalty, profitability, brand equity, and financial performance (Gruen *et al.*, 2005). Furthermore, active C2C communication can reduce the uncertainty of activities (Adjei *et al.*, 2010).

Brand community engagement

Engagement involves cooperation and interactions, which bring positive results to a brand community. Brand community engagement leads to the formation of strong ties with a brand, products, other customers, and the corporation (Habibi *et al.*, 2014). Community engagement refers to the entire process in which members encourage and support other members to participate, allowing each member to achieve his or her own goals (Algesheimer *et al.*, 2005; Jang *et al.*, 2008; McAlexander *et al.*, 2002; Nambisan and Baron, 2007). This study introduces factors such as perceived personalization and perceived familiarity among community members with regard to brand community.

Research hypotheses

Relation between perceived personalization service and brand community engagement. In addition to the aforementioned factors, perceived personalization plays an important role in satisfying customer needs through customization. Personalized one-to-one marketing is essential to increasing customer retention and brand loyalty. Service

science, management, and engineering aim to increase efficiency by improving the service process using information technology, and by contributing to the development of personalized services (Liang *et al.*, 2012). Perceived personalization is customer information suited to e-commerce interactions between firms and customers through technology. Personalization refers to the process through which firms collect information on customers on a real-time basis and search for information that meets customers' needs (Herbig and Kramer, 1994).

Recent studies have found that such personalized services boost customers' levels of interaction and, ultimately, increase customer loyalty and satisfaction toward corporations (McMillan and Hwang, 2002). The establishment of personalization on the internet is linked to customer relationship management, which involves services tailored to particular customer needs (Montgomery and Smith, 2009). A personalized service provides services and content suited to customer needs by analyzing customer preferences (Liang *et al.*, 2012). In actuality, 80 percent of internet users are highly interested in personalized services (Kobsa, 2007; Liang *et al.*, 2012).

Komiak and Benbasat (2006) define perceived personalization as the customers' perceptions of the extent to which recommendation agents understand and consider customer needs. This study uses this definition to redefine perceived personalization in online brand communities as the customers' perceptions of the extent to which brand communities understand and substitute customer needs. Perceived personalization is similar to customization in meaning, and refers to the ability of an e-retailer's website to provide products, services, and transaction environments suited to customer preferences by recognizing customers (Srinivasan *et al.*, 2002).

Personalization continuously attracts customers to websites and enhances a positive attitude toward these websites (Holland and Baker, 2001). The perceived personalization of a website enhances customer loyalty by helping customers rapidly concentrate on the information that they really want (Srinivasan *et al.*, 2002).

At the same time, properly establishing an interaction mechanism to smoothly interact with members and to narrow the gap between members is important (Kuo and Feng, 2013). Furthermore, personalized service was found to be an important factor for this mechanism. Personalized service is an interaction process in which sellers provide customized services that are highly relevant to individuals based on their preferences (Miceli *et al.*, 2007; Liang *et al.*, 2012):

H1. Perceived personalization service is positively associated with brand community engagement.

Relation between perceived familiarity among members and brand community engagement. The asset value of brand communities increases by establishing a relationship among the members interested in the brands (Jang *et al.*, 2008). A community is defined as a group in which individuals or small groups get together and mutually share a sense of responsibility (Rothaermel and Sugiyama, 2001). Muñiz and O'Guinn (2001) suggest that a community should have a sense of connection and members who believe they are different from people outside the community.

According to social psychology, familiarity among those who interact – a perceived familiarity among the parties – is a factor that induces interaction (Hays, 1985; Lascu and Zinkhan, 1999). Today, a computer-mediated environment can develop mutual relations (Bordia, 1997). Familiarity among brand community members is defined as individuals' knowledge of other members of the community and their activities

(Shen *et al.*, 2010). Familiarity is also defined as the degree of interaction among members (Hinds *et al.*, 2000; Shen *et al.*, 2010).

Familiarity reduces uncertainty in a relationship with another party. Familiarity is a prerequisite for trust and is formed through previous interactions with the other party, experience, and learning. Familiarity strengthens trust and emotionally affects the social interaction process (Shen *et al.*, 2010; Shin, 2012). Furthermore, familiarity makes people attractive in interpersonal relations and affects attachment, the quality of interaction, and commitment positively (Flowers, 1977; Shin, 2014). Familiarity also reduces uncertainty and risk in online relations and increases member participation (Gefen, 2000; Ridings *et al.*, 2002). Strong familiarity with another party induces future interaction (Hinds *et al.*, 2000). Members of communities are likely to feel a sense of closeness to one another, which is attributable to the fact that they share common interests (Wellman *et al.*, 1996). Members of a particular community actively participate in community activities when comfortable within the community (Rothaermel and Sugiyama, 2001):

H2. The perceived familiarity among community members is positively associated with brand community engagement.

Mediation effect of quality C2C interaction in brand communities. On the internet, customers experience an interactive process with immediate, multiple pieces of feedback (Hoffman and Novak, 1996). Interactions between individuals are an important factor for commercial success (Rothaermel and Sugiyama, 2001). Brand community members build information and trust through continuous interactions within their communities (Rothaermel and Sugiyama, 2001).

Online C2C communication refers to the communication process among customers in online brand communities, an example of which is a discussion forum (Williams and Cothrel, 2000). Uncertainty reduction theory suggests that customers can make the right decision to purchase with the help of C2C communications (Adjei *et al.*, 2010). Because C2C interactions occur actively, individuals become closer to each other in a brand community in which they engage in active social interactions (Hoffman and Novak, 1996; Shin, 2012). C2C interactivity is crucial because such active interactions can resolve customer issues in a brand community when people help each other (Wiertz and de Ruyter, 2007). Customers of virtual brand communities have significant knowledge of products, participate in product-related discussions, and solve product-related issues (Füller *et al.*, 2008). Through this process, members solve brand-related problems with the assistance of other members (Wu and Fang, 2010).

The value of an interactive relationship increases when all members benefit from it, and C2C interactions within a brand community benefit all members involved (Bruhn *et al.*, 2014). For example, in online communities, customers are able to purchase products that best satisfy their needs by obtaining a variety of information through interactions with other customers (Shin, 2013). Interactivity leads to customer persuasion or engagement (McMillan and Hwang, 2002; Shin *et al.*, 2013), and C2C interactions result in stronger brand community engagement (Habibi *et al.*, 2014):

H3. The quality of C2C interactions mediates the relationship between perceived personalization and brand community engagement.

H4. The quality of C2C interactions mediates the relationship between the perceived familiarity among community members and brand community engagement.

Moderation effect of brand community trust in the brand community. Shin (2010) defines trust as the willingness to take risks with regard to the actions of the trustee, based on the expectation that the trustee performs an important and particular action for the trustor. In brand communities, a reliable interactive environment should be established (Bruhn *et al.*, 2014). Brand community trust refers to the sense of safety and security arising from the honesty, reliability, and trustworthiness of a brand community (Casaló *et al.*, 2008; Shin, 2015). Community trust facilitates selfless interactions, such as information sharing, which requires substantial time and effort, and occurs by connecting customers with similar hobbies, values, and interests. Thus, community trust is one of the key factors for developing a community (Bruhn *et al.*, 2014).

In a brand community, brand trust and brand community trust are crucial to facilitating relationships exchange (Bruhn *et al.*, 2014). Trust is a preceding element that facilitates interactions in a brand community. In other words, trust is a key antecedent for brand community interactions (in the community, interactions are unclear and the behavior of other brand community members remains an uncertainty). Trust alleviates the perceived risk arising from the interaction of two or more people. Additionally, trust contributes to the cooperative behavior of brand community members (Casaló *et al.*, 2008).

Bruhn *et al.* (2014) state that trust in a business-to-business (B2B) brand community has a positive impact on C2C interactions. Trust boosts the perception of interaction partners and, as a result, stimulates C2C interactions among members. Ridings *et al.* (2002) find that trust is related to the willingness of brand community members to disclose their personal information. According to Tsai *et al.* (2012), trust in a relationship boosts brand community participation. A high level of brand community trust reduces information asymmetry. As a result, brand community members' engagement is strengthened, and a two-way relationship enabled between brand trust and brand community engagement (Habibi *et al.*, 2014):

H5. Brand community trust positively moderates the relationship between perceived personalization and the quality of C2C interactions.

H6. Brand community trust positively moderates the relationship between perceived personalization and brand community engagement.

H7. Brand community trust positively moderates the relationship between perceived familiarity among community members and the quality of C2C interactions.

H8. Brand community trust positively moderates the relationship between perceived familiarity among community members and brand community engagement.

Method

Sample

The subjects for the study were J university students in Korea. Only students who joined the discussion and shared information as members of the brand community were selected. A questionnaire was provided to members of online brand communities to test the research hypotheses. As mentioned earlier, an online community is defined as a form of communication of online social groups, based on interactions or group purchases and exchanges of people with similar interests.

Data were collected with the consent of the respondents and the survey was conducted in the classroom. Respondents were thanked for completing the

questionnaires. A total of 115 respondents were surveyed, of which 110 respondents were selected for the study. Five respondents were excluded from the final sample because they did not respond sincerely to the questionnaire. The sample comprised of 62 percent males. Ages ranged from 21 to 28. The sample consisted of 65 percent undergraduate students and 35 percent graduate students.

Measures

Table I shows the details of the measurement items used in this study. All items were measured using a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Improving the content validation of the measured items should conceptually indicate the generalizations made. Thus, the scales were selected to ensure content validity and with reference to prior appropriate literature.

The measurement of perceived personalization was developed from Srinivasan *et al.* (2002) and Komiak and Benbasat (2006). The items measuring perceived familiarity among community members (FAM: an individual's knowledge of community members and the activities occurring within the community) were adapted from Shen *et al.* (2010). Perceived trust within the online brand community was measured using four items adapted from Gefen *et al.* (2003) and Lauren and Lin (2003). Items for the interactivity among members were taken from Cho and Cheon (2005), and were changed to fit the online brand community context. Online brand community engagement was measured using four items adapted from Algesheimer *et al.* (2005) and Habibi *et al.* (2014). The items were modified to make them relevant to the online brand community context. Table I lists the items used in this study. All items are based on seven-point Likert-type scales, anchored by (1) "strongly disagree" and (2) "strongly agree" to measure the intensity of each construct.

Analysis procedure

To test the conceptual model, we conducted structural equation modeling with all of the survey respondents by using SmartPLS software (Ringle *et al.*, 2005) to examine the hypothesized model. Partial least squares (PLS) structural equation modeling has several advantages over the covariance-based approach to structural equation modeling. Most importantly, PLS makes minimal demands on the sample size, thus making it especially appropriate for testing multi-group structural equation models with relatively small sample sizes. The sample sizes of 52 and 58 cases for each group (high vs low level of brand community trust) are adequate for the PLS analysis because they satisfy the heuristic that the sample size be at least ten times the largest number of structural paths directed at any one construct. In addition, a PLS analysis provides robust estimations for data with extremely non-normal distributional properties. However, influential outliers do influence the data results. Thus, we tried to identify potential outliers by means of box and stem-and-leaf plots using IBM SPSS Statistics. The result indicates no outliers. Moreover, the kurtosis and skewness of the items are not an issue because they are within −1 and +1, which is an acceptable level (Hair *et al.*, 2014).

Results

Measurement scale assessment

The average variance extracted (AVE) and the composite reliabilities for all constructs were estimated to confirm the internal consistency of the constructs. Composite reliabilities are greater than 0.70, indicating that the measures are reliable (Hair *et al.*, 1995). All AVEs exceed the criteria of 0.50, which confirms internal consistency (Bagozzi and Yi, 1988). Table I was shown in detail.

Construct	Items	Factor loading	Source
Brand community trust ($M = 3.63$; SD = 0.99; CR = 0.90; AVE = 0.75)	Based on my experience with the online brand community in the past, I know it is not opportunistic	0.690	Lauren and Lin (2003) and Gefen *et al.* (2003)
	Based on my experience with the e-service in the online brand community in the past, I know it cares about community members	0.856	
	Based on my experience with the online brand community in the past, I know it is honest	0.896	
	Based on my experience with the online brand community in the past, I know it is predictable	0.734	
Perceived personalization ($M = 3.75$; SD = 1.08; CR = 0.79; AVE = 0.56)	This online brand community understands my needs	0.877	Srinivasan *et al.* (2002) and Komiak and Benbasat (2006)
	This online brand community knows what I want	0.866	
	This online brand community takes my needs as its own preferences	0.648	
Perceived familiarity ($M = 3.61$; SD = 1.09; CR = 0.77; AVE = 0.52)	Members of the online brand community are as familiar to me as good friends are	0.665	Shen *et al.* (2010)
	I have frequent interactions with other members of the online brand community by writing or replying to articles	0.730	
	The online brand community members feel familiar to me	0.790	
Quality of C2C interactions in brand community ($M = 3.23$; SD = 1.34; CR = 0.75; AVE = 0.51)	The interaction with other members of the online brand community is of high quality	0.664	Dodds *et al.* and Bruhn *et al.* (2014)
	I am very satisfied with the quality of interaction with other members of the online brand community	0.972	
	My demands concerning the quality of interaction with other members of the online brand community are met	0.681	
Brand community engagement ($M = 3.66$; SD = 1.30; CR = 0.84; AVE = 0.57)	I benefit from following the brand community's rules	0.788	Algesheimer *et al.* (2005) and Shin (2016)
	I am motivated to participate in the brand community's activities because I feel better afterwards	0.858	
	I am motivated to participate in the brand community's activities because I am able to support other members	0.899	
	I am motivated to participate in the brand community's activities because I am able to reach personal goals	0.880	

Notes: CR, composite reliability; AVE, the average variance extracted

Table I.
Construct items

Discriminant and convergent validity. All standardized factor loadings are higher than 0.60, which provides evidence of convergent validity. Discriminant validity is achieved if the square root of the AVE for each construct exceeds the correlations of the construct with other constructs (Anderson and Gerbing, 1988). As seen in Table II, discriminant validity is achieved.

Common method bias. We use one source of data in this study so that we conduct tests using a common method bias. First, we assess the common method bias following the procedure suggested by Williams and Anderson (1994). A method factor was added with all indicators for all latent variables loading on this factor. The structural results were consistent with the original structural model. We also conducted the procedure of Liang *et al.* (2007). The results show that method factor loadings were not significant and the ratio of substantive variance to method variance is more than 100:1, which means that common method bias is not a serious issue.

Structural model and hypothesis tests

Test of structural model. The overall fit indices for the structural model indicate acceptable good model fit. The percentages of explained variance (R^2) for quality of C2C interactions in brand community is 0.28 and for brand community engagement is 0.44, suggesting that the structural model has predictive relevance (Hair *et al.*, 2014). All path coefficients were significant and in the predicted direction (see Figure 1).

	Perceived personalization	Perceived familiarity	Quality of C2C interactions in brand community	Brand community engagement	Brand community trust
Perceived personalization	0.75				
Perceived familiarity	0.53**	0.69			
Quality of C2C interactions in brand community	0.45**	0.47**	0.70		
Brand community engagement	0.55**	0.55**	0.50**	0.79	
Brand community trust	0.56**	0.51**	0.24*	0.44**	0.86

Table II. Correlations and square root of the average variance extracted

Notes: The average variance extracted (AVE) is on the diagonal. *,**Correlation is significant at $p < 0.01$; $p < 0.001$

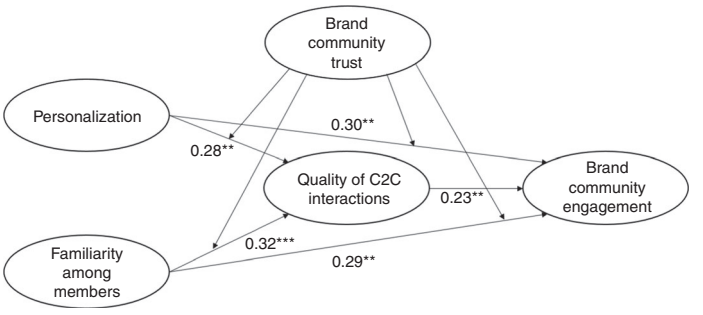

Figure 1. Relationships among variables

Notes: **$p < 0.01$; ***$p < 0.001$

H1, which suggests that perceived personalization service has a positive influence on brand community engagement, was supported ($\beta = 0.29$, $p < 0.05$). In addition, *H2* notes the positive relationship between perceived familiarity among community members and brand community engagement; *H2* was also supported ($\beta = 0.29$, $p < 0.05$).

Mediation test. We tested the mediation research hypotheses following the guideline suggested by Zhao *et al.* (2010). According to Zhao *et al.* (2010), Baron and Kenny classification of full, partial, and no mediation is misleading because a significant total effect of independent variable on dependent variable is not necessary for mediation to occur. Instead, they suggest that if indirect effect is significant, mediation hypotheses could be supported. Therefore, we focussed on calculating significance of indirect effect. In this study, we computed the *t*-values from 1,000 bootstrapping runs. Bootstrapping is a nonparametric resampling procedure that involves repeatedly sampling from the data set and estimating the indirect effect in each resampled data set. By repeating this process a thousand of times, an approximation of the sampling distribution of indirect effect is built and used to calculate the *t*-values for testing mediation hypotheses. More specifically, the indirect effect was calculated using the product of the direct effects between independent variable and mediation variable as well as mediation variable and dependent variable for each of the 1,000 subsamples. Then, the standard deviation was calculated and finally *t*-value of the indirect effect can be computed by dividing the indirect effect with the standard deviation (Hair *et al.*, 2014; Preacher and Hayes, 2008).

H3, which states that the quality of C2C interactions in a brand community mediates the relationship between perceived personalization and brand community engagement. This finding supports this hypothesis, because the indirect effect via the quality of C2C interactions in brand community is significant ($\beta = 0.06$, $p < 0.05$). *H4* posits that the quality of C2C interactions mediates the relationship between the perceived familiarity among community members and brand community engagement, and our analysis supports this hypothesis ($\beta = 0.07$, $p < 0.05$).

Multi-group test. We conducted a median split in our sample on the value of the moderator. Then, we performed a multiple group analysis to compare two subsamples (high vs low level of brand community). The significance of the difference between path coefficients was examined by performing an unpaired *t*-test, based on estimates and standard errors generated by bootstrapping. Measurement invariance is a prerequisite for a group comparison. Thus, we test whether the loadings on the four constructs' measurement model differed. The *t*-tests show that at the 5 percent level, no difference between two subsamples was significant (Hair *et al.*, 2014). *H5* posits that brand community trust positively moderates the relationship between perceived personalization and the quality of C2C interactions. A comparison between the two coefficients revealed that the path coefficient for the high brand community trust was significantly stronger than the path coefficient for the low brand community trust (difference $= 0.21$, $p < 0.05$). Hence, *H5* is supported.*H6* states that brand community trust positively moderates the relationship between perceived personalization and brand community engagement. The comparison between the two coefficients revealed that the path coefficient for the high brand community trust was significantly stronger than the path coefficient for the low brand community trust (difference $= 0.26$, $p < 0.05$). Hence, *H6* is supported. *H7* posits that brand community trust positively moderates the relationship between perceived familiarity among community members and the quality of C2C interactions. The comparison between two coefficients revealed

that the path coefficient for the high brand community trust was significantly stronger than the path coefficient for the low brand community trust (difference $= 0.10$, $p < 0.05$). Hence, *H7* is supported. *H8* posits that brand community trust positively moderates the relationship between perceived familiarity among community members and brand community engagement. The comparison between two coefficients revealed that the path coefficient for the high brand community trust was significantly stronger than the path coefficient for the low brand community trust (difference $= 0.25$, $p < 0.05$). Hence, *H8* is supported.

Discussion

This study proposes an integrated framework to conceptualize the relationships between perceived personalization, familiarity among community members, and community engagement, with C2C quality as a mediating variable and brand community trust as a moderating variable. The results of this study can be summarized as follows. First, with regard to the relationship between personalized service and brand community engagement, perceived personalization has a significant positive effect on brand community engagement. Given the development of communication technology and the internet, we assume that customers today can freely express their experiences and opinions in the virtual brand community (Wang *et al.*, 2013). Then, according to Bagozzi and Dholakia (2006) participation in community activities refers to social interaction with other members, which then enhances the understanding of brands and products. In contrast, this study shows an inverse relationship, given that interaction affects engagement in community activities. Previous studies on personalized service focus on service in e-commerce. However, this study suggests that personalized service is also an important factor in community sites, because it shows that personalized service affects the outcome variable (engagement) of brand communities positively.

Second, familiarity among community members was found to affect the quality of C2C communication and community engagement. This is the result of the fact that familiarity among community members is associated with a lower level of perceived risk by customers on members.

Finally, as a future study, Adjei *et al.* (2010) suggest a link between community quality and four value factors, presented by Schau *et al.* (2009): social networking, community engagement, impression management, and brand use. The findings here show that some answers to the previous questions could be obtained. That is, the quality of C2C communications was found to play an important mediating role in connecting the characteristics of brand community (personalized service and closeness among members) with community engagement. This study aims to understand the importance of C2C communication in online brand communities. In particular, C2C communication was found to play the role of a pathway leading to community engagement by customers.

Implications

This study provides the following implications. First, it contributes to customer marketing research by empirically testing the important role of C2C in brand community engagement. C2C interactions mediate the impact of the two independent variables of perceived personalization and familiarity among members engaging in a brand community. The two brand community characteristics affect C2C interactions, which influence the brand community engagement of customers. Despite the

importance of personalized services, not many studies have examined the antecedents and consequences of personalized services, especially in terms of online communities. Moreover, few studies have determined why personalized services are not as effective as other services on the internet (Liang *et al.*, 2012). Obviously, the reason is that customer empowerment has increased through the internet and major social media platforms (Powers *et al.*, 2012).

The confirmation of the importance of C2C is theoretically meaningful because few studies have been conducted on the interaction among members of virtual brand communities (Madupu and Cooley, 2010; Nambisan and Baron, 2007; Zaglia, 2013). Such implications provide the following lessons to marketing managers handling brand communities. Marketing executives should value "personalization" and "familiarity among members" as key factors of C2C interactions in brand communities. Additionally, they should be aware that these factors could boost brand community engagement. Bruhn *et al.* (2014) found that corporations do not have to conduct special activities to garner brand loyalty, because the quality of C2C interactions in B2B brand communities is key to gaining loyalty toward the brand community. This result is interpreted in the same sense as in Adjei *et al.* (2010). They stressed that because the online brand community is effective in enabling customers to communicate with each other, firms are able to understand customers by accessing the information exchanged among customers in these communities. Thus, corporations need to make extra effort to stimulate C2C interactions.

Second, although trust is a critical factor in customer-based e-commerce, almost no empirical studies exist on the type of situations that lead to trust playing a key role (Matthew and Efraim, 2001). Whether community trust plays a moderating role in the correlation between online community features and the outcome variables has never been studied. However, this study highlighted the moderating role of brand community trust on the relationship between perceived personalization and perceived familiarity among community members and brand community engagement. In other words, this study discussed and proved the situation in which community trust is crucial. Additionally, the boundary conditions discussed by Bruhn *et al.* (2014) were identified. They found that trust plays an important role in facilitating C2C interactions.

Third, other studies have examined the attitude of online brand communities from a corporate standpoint only. Although social interactions are the key to triggering positive attitudes toward virtual brand communities, very few studies have focussed on community members (Shen *et al.*, 2010). The impact of the interpersonal interactions of users on virtual communities' performance variables, such as loyalty, is rarely studied (Shen *et al.*, 2010). However, this study clarifies the following concept: C2C interactions of community members are a key variable in mediating the relationships among the community attribute variables (perceived personalization and familiarity among members) and the dependent variables. The theoretical significance of this study was established by empirically analyzing the importance of member interactions.

Fifth, McWilliam (2000) identified the antecedents that affect C2C interactions in brand communities. The perceived personalization and familiarity among members as variables that affect C2C interactions in brand communities need to be added to the theoretical significance of this study.

Limitations and future research

The limitations of this study and are as follows. First, the study sample consists of individuals in their 20s who use online brand communities. Therefore, stating that the

sample reflects all age groups who use brand communities is incorrect. To generalize the findings of this study, future studies need to conduct a direct online survey of users who use a broader spectrum of online brand communities. However, this limitation is not significantly problematic for the following reasons. This study focussed on only two areas: the mediation process of C2C interactions and the moderating effects of brand community trust with regard to the impact of brand community attributes on brand community engagement. In addition, the data of this study may create bias because they were collected in a single country. Thus, data from various countries need to be collected to generalize the results.

Second, analyzing various brand communities to boost external validity is necessary because brand communities can change depending on social context and types (McAlexander *et al.*, 2002). The sample of this study was collected from various brand community product groups. A future study will investigate whether the current hypothesis applies to all industry groups by exploring the suitability of the model based on the brands of various industry groups using a more detailed questionnaire.

Third, other antecedents in this study exist that affect C2C quality, even though it tested a model that included variables for brand community characteristics (personalized service and closeness of members), C2C quality, and community engagement. Because the objective of maintaining online brand communities is to activate C2C communication, understanding C2C communication (Adjei *et al.*, 2010) and identifying the variables that bring about such communication are important.

In addition, this study is expected to provide insight into several new aspects. For instance, the framework will differs depending on the brand community leader – between customers and a marketer (Jang *et al.*, 2008). A brand community leader is actually expected to moderate the impact of the community on brand loyalty and commitment.

Fourth, additional moderating variables should be studied regarding the impact of brand community characteristics on C2C interactions and brand community engagement. For example, the following variables could have moderating effects: brand involvement, brand knowledge, and brand experience. Furthermore, communities can be customer-led communities, which are voluntarily formed by members, and company-led communities, which own the brands and are formed to establish a relationship with customers. The mechanism among the components varies depending on the owners of brand communities (Muñiz and O'Guinn, 2001). As such, for future studies to investigate the moderating role of the type of communities will be meaningful.

Fifth, this study limited the engagement objects in a virtual brand community to brand community engagement. Thus, expanding the engagement objects is necessary and can be done by testing various hypotheses, including the brand engagement framework models of brand communities, to add to the theoretical significance.

Sixth, this study assumes quality of C2C communication as a variable to mediate brand community characteristics, such as community engagement. However, conducting a study that assumes social interaction – a similar concept – as a mediating variable in a future study would be interesting. In particular, social interaction is divided into information interaction and emotional interaction. Thus, investigating the type of interaction connected to brand community characteristics is expected to yield interesting results (Chen *et al.*, 2009).

Finally, this study examined customer engagement in terms of antecedents only. Thus, the consequences should be identified through result variables such as loyalty, commitment, and participation. Furthermore, whether the results are related to brand attitudes should be identified and will be helpful for businesses.

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