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The effect of customers' perceived benefits on virtual brand community loyalty

Minjung Kang
Mokpo National University, Muan, South Korea, and
Dong-Hee Shin
School of Media and Communication, Chung-Ang University, Seoul, Korea

Abstract

Purpose – The purpose of this paper is to examine how types of virtual brand community (VBC) benefits influence VBC loyalty through specific types of interaction.

Design/methodology/approach – The study targeted 250 brand community users to conduct an empirical analysis using SPSS 19.0.

Findings – Consumers' perceived benefits (functional, experiential, and symbolic) were found to be the leading variables in inducing consumer loyalty. Brand community managers should not focus only on the benefits offered by the brand community, but also on how these benefits can be associated with human-to-computer and consumer-to-consumer (C2C) interaction.

Research limitations/implications – The virtual community (VC) has an important role as a marketing tool. As the VC within the virtual space has gradually been increasing, its importance has grown as well, therefore making research studies on heightening members' brand community site loyalty important.

Originality/value – This study broadens and contextualizes our understanding of what type of VBC interaction can be further activated in the process of enhancing the members' VBC loyalty, which is affected by consumers' perceived benefits.

Keywords Virtual brand community, Perceived benefits, Human-computer interaction, Consumer-to-consumer interaction, Virtual brand community loyalty

Paper type Viewpoint

Information and communication technology (ICT) users are both information users and service consumers (Kim *et al.*, 2007), so in order to understand ICT consumer behavior, rather than technical elements, other factors such as emotional, psychological, and social factors should be understood as well (Shin, 2016; Wang *et al.*, 2013). Value is an important marketing factor: marketing containing the exchange concept is based on consumer value (Holbrook, 1994; Shin, 2015). Many studies have emphasized that consumers' perceived value is related to their adoption of the internet and mobile services, which is in turn related to their user attitude (Kim *et al.*, 2007; Wang *et al.*, 2013). Sheth *et al.* (1991) defined the complex, multi-dimensional structure of perceived value in functional, emotional, social, epistemic, and conditional value (Sanchez-Fernandez and Iniesta-Bonillo, 2007). This research employs the theory of consumption value explicated above, trying to explain the consumer loyalty mechanism with regard to the virtual brand community (VBC).

Bruhn *et al.* (2014) stated that if the interaction between members of a brand community is of high quality, then there can be functional, experiential, and symbolic perceived benefits for the members. However, there has been no research on how consumers' perceived benefits affect community loyalty with a focus on the

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psychological mechanism. By developing the work of the above-mentioned article, this study aims to explore how interaction mediates relations between brand community consumers' perceived benefits (functional, experiential, and symbolic) and brand community loyalty. Meanwhile, a brand community can elongate its survival through human-computer (computer-mediated) interaction and consumer-to-consumer (C2C) interaction (Shin, 2014; Wu and Fang, 2010). Digital technology centering on the internet has enabled company-consumer, consumer-consumer, and company-company interactions regardless of time and space (Ramani and Kumar, 2008). Not only firm-based interaction but also C2C interaction directly and indirectly affects brand community loyalty (Bruhn *et al.*, 2014). Thus, this study broadens and contextualizes our understanding of what type of VBC interaction can be further activated in the process of enhancing the members' VBC loyalty, which is affected by consumers' perceived benefits.

This research is organized as follows. First, as a theoretical background, the concepts of VBC, consumers' perceived benefits, and consumer interaction behaviors are laid out. Second, the hypothesized relationship is explicated. Third, the methodology and result analysis are proposed. Finally, the results are discussed and management implications, limitations, and future research directions are suggested.

VBC

Beyond the geographical limit that previous communities have had, brand communities are based on shared personality and general understanding, which are driven by the development of mass media and medium communication and also serve in the construction of brand assets (Muñiz and O'Guinn, 2001). The reason why many host online communities establish a brand community can be explained by their wish to strengthen brand construction through the feedback offered by the established relationship with the consumers (Gummerus *et al.*, 2012; Wiertz and de Ruyter, 2007).

In a VBC, brand community members are devoted to the brand in order to share a specific brand experience, so brand managers should employ the brand community as a place to advertise brand advantages to its members, thereby inducing the members' brand loyalty (Vargo and Lusch, 2004; Wang *et al.*, 2013). The VBC allows members to exchange information, construct identity, develop community conventions, and practice social networking. The virtual community (VC) provides a space in which people can interact and communicate within a computer-mediated environment, and the number of communities has drastically increased (Wang *et al.*, 2012).

Consumers' perceived benefits

Several VC researchers have conducted research studies on customers' perceived benefits by applying uses and gratifications (U&G) theory (Chen *et al.*, 2013; Shin, 2011). The "U&G" approach model (Katz *et al.*, 1974) defines various types of benefits customers can derive by using media. In many research studies, U&G approach is used to explicate consumers' motivation for online activity participation, and consumers achieve various benefits through a brand community (Schau *et al.*, 2009).

Keller (1993) defined brand benefits as "the personal value consumers attach to the product or service attributes – that is, what consumers think of the product or service can do for them." Then he classified brand benefits into functional, experiential, and symbolic benefits. The first refers to the basic functions consumers obtain from a given product; these functions are what attracts the consumers and satisfies their basic needs.

As the term suggests, experiential benefits are how consumers feel as they use the product. Lastly, the symbolic benefit satisfies one's self-realization needs, such as social approval and/or self-expression, and unlike the other two benefits, is associated with non-product-related attributes (Keller, 1993). According to Keller, social interactions are important as part of brand benefits; he emphasized the need for future research to include this topic as part of marketing strategies (De Mel and Boccardo, 2014).

Brand community benefits (functional, experiential, and symbolic) positively influence brand association and brand perception (Bruhn *et al.*, 2014). Desire satisfaction or benefit achievements on the part of the consumers motivate them to participate in the brand community (Gummerus *et al.*, 2012). By participating in the brand community, the consumer can obtain social, functional benefits (Dholakia *et al.*, 2004), and experiential benefits (Gummerus *et al.*, 2012). Consumers' perceived benefits are preconditions for consumer participation and brand community loyalty (Gwinner *et al.*, 1998).

Interaction in a VBC

Interaction is important, as it supports the brand community. As communication and interaction increase, the community is strengthened. Therefore, it is especially important to examine the factors that encourage interaction within the brand community (Lusch *et al.*, 2007).

According to Steuer's (1992) communication model, communication occurs not only between the sender and receiver but also between the user and media environment. In an online community, interaction is divided into two types: interaction between community members and human-computer interaction through the online community platform (Wang *et al.*, 2012).

Human-computer interaction, also called computer-mediated interaction, which is an important factor in a VBC, is an interaction between the user and computer and also a perception with regard to the user's website and hypertext (Hoffman and Novak, 1996; Jee and Lee, 2002; Shin, 2013; Voorveld *et al.*, 2010; Wang *et al.*, 2012, 2013). Interpersonal interaction can be defined as person-to-person communication between VBC members, and it is essential in forming and developing both social and community relationships (Wang *et al.*, 2013).

The definition of C2C interaction is as follows: it is an exchange process between more than two customers who use the brand and the brand community that is established for the brand. C2C interaction features avoiding opportunistic behavior, interdependencies, and mutual benefits (Ford, 1980; Sepulveda and Gabrielsson, 2013). Brand community members are willing to participate in the exchange relationship in order to achieve shared objectives such as obtaining information, sharing experiences and finding solutions to problems (Bruhn *et al.*, 2014).

VBC loyalty

For the profit of the company, it is beneficial to transform existing consumers into loyal consumers. Brand community loyalty, which is the success indicator of the brand community, is connected to not only brand commitment but ultimately to repurchasing of the brand (Bruhn *et al.*, 2014). In order for customers to repurchase the brand and to maintain a continuous relationship with the company, interaction between the customer and company must be sustained (Palmatier *et al.*, 2007). Hagel and Armstrong (1997) also noted that community loyalty is positively affected by these factors: occasional visits, active participation, and a high level of contribution.

Research hypotheses

Relations between consumers' perceived functional benefit and VBC loyalty

Community is where consumers ask questions and obtain feedback, thus providing them with informational benefits (Gummerus *et al.*, 2012). The functional benefits driven from the brand community can be defined as gratification of functional adequacy through interaction within the brand community (Dholakia *et al.*, 2004; Bruhn *et al.*, 2014). Consumers use the brand community when they encounter particular problems. First, they acquire certain knowledge regarding the community brand through solving the problem, and then become part of the member group as a member who offers help to others (Dholakia *et al.*, 2009). Wasko and Faraj (2005) stated that people use the VC to share, exchange, and acquire information:

H1. Consumers' perceived functional benefit positively influences VBC loyalty.

Relations between consumers' perceived experiential benefit and VBC loyalty

A marketing strategy based on experience regards the customer as a connoisseur who is interested in activities that offer stimulation, excitement, and variety (Hirschman and Holbrook, 1982; Keller, 1993). The experiential benefits of a brand community mean the experiential value accompaniment. The presence of a tension between entertaining and challenging elements accounts for the experiential benefit (Hoffman and Novak, 1996). This view enables one to presume that through interaction in a brand community, brand community members can benefit from mentally and emotionally simulating interaction experiences, which is referred to as the experiential brand community benefit (Bruhn *et al.*, 2014).

Interaction within a brand community stimulates the customers both emotionally and intellectually, and makes them challenge themselves. As both recipient and sender in solving complex problems aroused by the brand community, members experience "technical enjoyment" (Nambisan and Baron, 2009). Functions (forums, chats, and the sharing of videos and documents) that enable interaction can enhance the experiential benefits in a brand community (Bruhn *et al.*, 2014).

Consumers receive information and socio-emotional support from the VC. One shows their appreciation and interactive reward such as administration as they receive help from those who provide resources such as informational or social support (VC members or community), and this reward can be commitment or co-shopping (Chan and Li, 2010). Consumers try to provide resources to the social network in return after they have an enjoyable experience with the social network (Wasko and Faraj, 2005). The experiential benefit is driven from relaxation and excitement (Dholakia *et al.*, 2009) that consumers can experience by using the online service (Gummerus *et al.*, 2012; Nambisan and Baron, 2009):

H2. Consumers' perceived experiential benefit positively influences VBC loyalty.

Relations between consumers' perceived symbolic benefit and VBC loyalty

Symbolic benefits within a brand community mean a member's gratification with regard to self-expression and a sense of belonging through interaction in the brand community (Bruhn *et al.*, 2014). Interaction with the brand community leads members to engage in a more intimate relationship with the community, emotionally, or socially (Algesheimer *et al.*, 2005). Social contact is an important factor in determining loyalty (Selnes and Hansen, 2001). Consumers can enhance their self-esteem by recognizing

themselves as accepted, useful, and necessary through the community, for example, by receiving birthday coupons or interacting with other members (Gummerus *et al.*, 2012).

McMillan and Chavis (1986) explained that a sense of community, which is the level of feeling an individual experiences from being a part of a group, influences brand community participation. Discussion topics in a VC have high relativity, interest, value, and importance so that members have a heightened sense of belonging and maintain a continuous relationship with the community (Wang *et al.*, 2012). Therefore, their sense of belong is related to interacting with members of other brand community members (Bruhn *et al.*, 2014; McMillan and Chavis, 1986). In addition, members who feel that they are accepted socially by the community show more loyalty (Bergami and Bagozzi, 2000):

H3. Consumers' perceived symbolic benefit positively influences VBC loyalty.

Direct effect of consumers' perceived benefits on human-computer interaction and C2C interaction

From a collaborative competence standpoint, interaction in a brand community can be understood as the co-creation process of collaborative interaction partners (Bruhn *et al.*, 2014). Interaction is a process in which members depend on each other to satisfy their functional, experimental, and symbolic desire (Bruhn *et al.*, 2014).

The reasons VC members interact can be explained by Foa's (1971) resource exchange theory, which states that people get involved in exchange transactions because of their desire to obtain other types of resources, and people with more resources have more anticipation toward reciprocation (Chan and Li, 2010). Interaction can present resource exchange activity, and members can exchange various types of resources through a variety of interactions, which in turn increases ability and motivation to reciprocate (Chan and Li, 2010). Therefore, it means that the more resources the members have, the more active the interaction is. Consumers' perceived benefits can be seen as part of the resources.

The U&G approach states that participants interact with media or media users and gain various benefits from the interaction (Bruhn *et al.*, 2014; Nambisan and Baron, 2009). Brand community users exchange and share high-quality information and specific experiences with regard to the brand. Therefore, brand community participants can ask and answer questions related to the brand, which helps them solve problems, in turn serving as a valuable resource (Muñiz and O'Guinn, 2001).

Meanwhile, VC enjoyment has significant influence on members' reciprocation (Lee and Chen, 2010). Enjoyment, which is an emotional factor of the flow experience, encourages one to participate in the VC (Bagozzi and Dholakia, 2006) with engagement (Hoffman and Novak, 1996). Enjoyment has a positive influence on one's attitude toward computer technology (Koufaris, 2002). Experiential flow activity spurs interaction in a computer-mediated environment (Hoffman and Novak, 1996). In addition, customers' belief that their experience has been pleasurable encourages them to participate in interactions relating to the VC's products.

Meanwhile, consumers with social support and recognition can more actively reciprocate as a means of appreciation (Rosenbaum and Massiah, 2007). Through a community-wise, socially identified and recognized process, members can have the opportunity to interact with other members (Ashforth and Mael, 1989). Consumers with a higher social sense of belonging can help the VC by sharing information with other members (Wasko and Faraj, 2005).

Mediation effect of human-computer interaction on the relationships between consumers' perceived benefits and brand community loyalty

To increase customer satisfaction with the website, gratification toward system quality should come first (McKinney *et al.*, 2002). Human-computer interaction is a factor considered from the technological interface perspective, and is further activated by functional benefits (Wang *et al.*, 2012). The structural path of interaction refers to the structural features, such as the message board, in the VC, and also the convenience of the information search function, posting of updates, organization of the archive, and reliability of censorship. These VC structural features (availability, efficiency, and abundance of information resources) activate consumers' interactions (Burgoon *et al.*, 2002; Chan and Li, 2010). To facilitate customers' interactions, an organization should integrate knowledge by facilitating the sharing and transmitting of information among customers (Subramaniam and Youndt, 2005):

H4. Human-computer interaction partially mediates the influence of consumers' perceived functional benefit on VBC loyalty.

H5. Human-computer interaction partially mediates the influence of consumers' perceived experiential benefit on VBC loyalty.

H6. Human-computer interaction partially mediates the influence of consumers' perceived symbolic benefit on VBC loyalty.

Mediation effect of C2C interaction on the relationships between consumers' perceived benefits and VBC loyalty

Moreover, since customers in a VBC have substantial influence over and advocate for a particular brand, companies should consider the influence of customer interaction in a VC. With regard to brand communities, the characteristics of C2C interactions depend on the substantiality of C2C interactions, specifically in terms of creating high-quality online interactions, which a brand community requires (Bruhn *et al.*, 2014). C2C interaction is a defining factor in influencing a customer's community loyalty, and a VC is defined as a social environment in which people exchange information, ideas, and advice regarding common interests (Chan and Li, 2010).

Through interaction in a VC, customers can become devoted to the community and can participate in collective activity, such as co-shopping, more ardently. Through this interaction, customers can purchase the brand's products at a more reasonable price, more conveniently (Chan and Li, 2010; Gao, 2008). Recent research studies on the C2C relationship have focussed on the social nature of brands and found that because brands have strong social features, customers are important in the brand community (Muñiz and O'Guinn, 2001; Wu and Fang, 2010).

C2C interactions are a valuable resource of a brand community and contribute to the functional desire of its members (Bruhn *et al.*, 2014). By sharing the problem-solution experience and information regarding the brand, the members of a brand community can satisfy their functional desire and also discuss new ideas and actively participate in product development (Füller *et al.*, 2008). When VC members are in need of help, they frequently ask other members (Chan and Li, 2010). Members of a VBC have abundant product information, actively discuss the products and solve problems (Füller *et al.*, 2008; Wu and Fang, 2010).

Meanwhile, brand community members provide high-quality advice, experience, and information to the brand community, which in turn enhances the community's image.

Members who acknowledge the importance of each other emphasize the importance of others' opinions and feedback, leading to more active interaction between members, and all of these elements heighten community members' social stability and self-esteem (Bruhn *et al.*, 2014; Hennig-Thurau *et al.*, 2004):

H7. C2C interaction partially mediates the influence of consumers' perceived functional benefit on VBC loyalty.

H8. C2C interaction partially mediates the influence of consumers' perceived experiential benefit on VBC loyalty.

H9. C2C interaction partially mediates the influence of consumers' perceived symbolic benefit on VBC loyalty.

Serial mediation effect of human-computer interaction and C2C interaction on the relationships between consumers' perceived benefits and VBC loyalty

Human-computer interaction can be defined as website experience, possibility of usage, and navigation experience within an online community environment (Mathwick and Rigdon, 2004; Wang *et al.*, 2013). Meanwhile, system interactivity, which is a similar term to human-computer interaction, means interactivity with technology, and also users' perceived interaction within the community's website and computer-mediated communication environment (Hoffman and Novak, 1996). System interactivity also means the technological ability for the community to provide feedback to its members through easily accessible, efficient, and rapid means (Wang *et al.*, 2012). Abundant website experiences facilitate VBC discussion participation and increase opportunities for members to gain product-related knowledge (Fiore *et al.*, 2005).

Computer-mediated communication strengthens social ties and increases sense of belonging among users. A well-designed website and hyperlinks enable customers to frequently visit the website for a longer time, ultimately stimulating loyalty toward the VBC (Wang *et al.*, 2013). Computer-mediated interaction expands the scope of the discussion, and for active C2C interaction, systematic development is needed (Wu and Fang, 2010). Through community features, consumers learn about the product and are motivated to get involved through interpersonal interaction. For example, in eBay's help forums, consumers interact with others through the message board and respond to others' posts regardless of the time difference, therefore instantly getting involved in conversation (Dholakia *et al.*, 2009):

H10. Human-computer interaction and C2C interaction serially mediate the influence of consumers' perceived functional benefit on VBC loyalty.

H11. Human-computer interaction and C2C interaction serially mediate the influence of consumers' perceived experiential benefit on VBC loyalty.

H12. Human-computer interaction and C2C interaction serially mediate the influence of consumers' perceived symbolic benefit on VBC loyalty.

Method

Sample

This research was conducted by asking 200 brand community members to fill out a questionnaire through a web-based questionnaire survey in Korea. The final sample included 200 participants, excluding five who answered insincerely.

The sample consisted of 88 female (44 percent) and 112 male (56 percent) respondents. All participants were between the ages of 20 and 39 (mean = 34).

We provided a hyperlink to the survey web page, and the respondents were directed to the online version of the questionnaire using the provided hyperlink. The respondents had to answer regarding their perception of the VBC of which they were members. In the questionnaire, the concept of VBC was explained in detail, and it was also emphasized that all answers should be based on the VBC that the respondent most actively participated in.

Measures

The questionnaire consisted of six constructs: perceived functional benefit, perceived experiential benefit, perceived symbolic benefit, human-computer interaction, C2C interaction, and brand community loyalty.

All constructs were measured using multi-item scales that were proven to be validated scales. Certain items were adapted to the research context. All items were measured using a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Perceived functional benefit was measured using three items, which were modified from the measure developed by Dholakia *et al.* (2004, 2009) and Bruhn *et al.* (2014). The items for perceived experiential benefit were adapted from Chan and Li (2010) and Bruhn *et al.* (2014). Measurement of perceived symbolic benefit was developed from Keller (1993) and Bruhn *et al.* (2014). The items for human-computer interaction were adapted from Jee and Lee (2002), Voorveld *et al.* (2010), and Wang *et al.* (2013). The items for C2C interaction were adapted from Hoffman and Novak (1996), Wang *et al.* (2013), and Bruhn *et al.* (2014). The items for brand community loyalty were adapted from Adler and Adler (1988) and Shen *et al.* (2010). The items are shown in Table I.

Analysis procedure

To test the conceptual model, the hypothesized model was tested using the Amos19.0 structural equation modeling program. Data analysis was conducted via two main steps. First, confirmatory factor analysis (CFA) was performed to determine whether the proposed construct was valid and measurement items possessed appropriate characteristics to reflect each of the structures. Thus, all the constructs (the exogenous constructs and the endogenous constructs) were included in a single total disaggregated CFA model (Bagozzi and Edwards, 1998). The adequacy of the measurement model was assessed in terms of overall fit with the data, the convergent validity of the measurement model, and reliability. Reliability of the scale items was analyzed using composite reliability (CR) and average variance extracted (AVE). Next, to test the hypotheses, we performed regression analysis using SPSS 18.0, examining the effects of consumers' perceived benefits (functional, experiential, and symbolic) on VBC loyalty and the mediation effect of human-computer interaction and C2C interaction on the relation perceived benefits and outcome effects.

Measurement analysis

The fit of this model was deemed to be acceptable ($\chi^2 = 109.121$, df = 50, $\chi^2/\text{df} = 2.2$; $p \approx 0.00$, MSEA = 0.07; NNFI = 0.94, CFI = 0.97, TLI = 0.95). The χ^2 to degrees-of-freedom ratio (χ^2/df) ranged between 1.0 and 5.0, the CFI and NFI both exceeded 0.90, and the RMSEA value ranged between 0.05 and 0.08, all demonstrating a good model fit to the data (Hair *et al.*, 1998).

Construct	Items	CFA	Source
Perceived trust with the online brand community	Based on my experience with the online brand community in the past, I know it is not opportunistic		Luarn and Lin and Gefen *et al.*
	Based on my experience with the e-service in the online brand community in the past, I know it cares about community members		
	Based on my experience with the online brand community in the past, I know it is honest		
	Based on my experience with the online brand community in the past, I know it is predictable		
Perceived personalization	This online brand community understands my needs	0.877	Srini *et al.* and Komiak and Benbasat
	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	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	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	I benefit from following the brand community's rules	0.788	Algesheimer *et al.* (2005) and Mohammad *et al.*
	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	

Table I.
Construct items

Reliability of the constructs was estimated using CR and AVE (see Table II). The composite reliabilities for all constructs, which ranged from 0.70 to 0.83, were above the 0.70 threshold, and the average extracted variances, which ranged from 0.54 to 0.71, were all above the recommended 0.50 level (Hair *et al.*, 1998), which meant that all constructs in the model had satisfactory internal consistency. Also, Cronbach's α values for the constructs were above the threshold of 0.7, achieving a high degree of internal consistency.

To verify discriminant validity, the Fornell-Larcker criterion was employed. According to this criterion, discriminant validity is achieved if the AVE values exceed the squared correlation values of intercorrelations among the constructs (Fornell and Larcker, 1981). The results provided evidence of discriminant validity (see Table III), which meant that all the AVE values for each latent factor were greater than the values of the average squared multiple correlations among constructs.

Convergent validity was also established using factor loadings from the CFA (see Table I). Factor loadings above 0.50 were considered to be very significant (Hair *et al.*, 1998) values of the respective intercorrelations among the constructs. All standardized loadings exceeded the recommended value of 0.70 (all *t*-values were significant at $p < 0.001$) (Fornell and Larcker, 1981). In conclusion, the measurement model verified adequate reliability, convergent validity, and discriminant validity.

Hypotheses testing

The hypothesized relationships were tested using the multiple regression analysis of SPSS 19.0.

Main effects. The main effects of perceived benefits (functional, experiential, and symbolic) on VBC loyalty were hypothesized in *H1-H3*. As Table IV shows, all these main

Construct	Cronbach α	Composite reliability	AVE
The perceived personalization	0.83	0.79	0.56
The perceived familiarity among members	0.77	0.77	0.52
Quality of C2C interactions in brand community	0.78	0.75	0.51
Brand community engagement	0.90	0.84	0.57

Table II. Measurement properties

	The perceived personalization	The perceived familiarity among members	Quality of C2C interactions in brand community	Brand community engagement
The perceived personalization	*0.56*			
The perceived familiarity among members	0.20	*0.52*		
Quality of C2C interactions in brand community	0.28	0.22	0.51	
Brand Community engagement	0.31	0.25	0.30	0.57

Note: The average variance extracted (AVE) is presented in italic

Table III. AVE and squared values of correlations for each construct

Variables	Direct effects	Indirect effects	Total effects
C2C interactions in brand community	0.21*****		0.21*****
The perceived personalization service	0.28	0.06*	0.33*****
The perceived familiarity among members	0.51*	0.08*	0.59*****

Note: *Indicate the level of significance $p < 0.05$

Table IV. The direct, indirect, and total effects

hypotheses were supported at $p < 0.05$. Perceived functional benefit had a significant effect on brand community loyalty ($\beta = 0.27$, $t = 3.52$, $p < 0.01$), supporting *H1*. Perceived experiential benefit had a significant influence on brand community loyalty, in support of *H2* ($\beta = 0.27$, $t = 3.04$, $p < 0.01$). Perceived symbolic benefit was positively related to brand community loyalty ($\beta = 0.30$, $t = 3.29$, $p < 0.01$). Thus, *H3* was supported.

Mediating effects. To test the mediating effects, a conditional process modeling program, PROCESS of Hayes (2012), was applied. PROCESS was suitable for the data analysis because it provided parallel, moderated, and serial mediation models. All indirect effects were tracked using bootstrap analyses with 1,000 bootstrap samples and 95 percent bias corrected confidence intervals.

Serial mediation assumes "that between the mediators, there is a causal chain, and this chain has a specified direction in turn" (Hayes, 2012, p. 14). To conduct mediation analysis, VBC loyalty was input as the outcome variable, perceived benefits (functional, experiential, and symbolic) as the predictor variable, respectively, human-computer interaction as a mediator variable (M1), and C2C interaction as a mediator variable (M2).

Results indicated that human-computer interaction did not mediate the relations between perceived functional benefit and VBC loyalty ($b = 0.1493$, SE = 0.0936, 95 percent bootstrap confidence interval: −0.0134, 0.3394; see Table V), which did not support *H4*. Human-computer interaction also insignificantly mediated the relations between perceived symbolic benefit and VBC loyalty ($b = 0.0999$, SE = 0.0779, 95 percent bootstrap confidence interval: −0.0108, 0.2681; see Table V). However, the mediation effect of human-computer interaction was significant in terms of the relations between perceived experiential benefit and VBC loyalty ($b = 0.1024$, SE = 0.0622, 95 percent bootstrap confidence interval: 0.0062, 0.2361; see Table V), which did not support *H6*.

Meanwhile, C2C interaction significantly mediated the relations between perceived benefits (functional, experiential, and symbolic) and the outcome variable (VBC loyalty), which supported *H7-H9* (see Table V). All the following serial mediation effects (perceived benefits (functional, experiential, and symbolic)→human-computer interaction→C2C interaction→VBC loyalty) were significant based on the test result of PROCESS Model 6 (see Table V).

Discussion

Wang *et al.* (2013) found that VBC interactions influence customers' perceived benefits. However, on the contrary, our research confirmed that customers' perceived benefits influence VBC interactions. According to the results of this research, interactivity

Table V. Comparative results from multi group analysis for *H5-H8*

Construct association	Brand community trust	
	Low level	High level
Perceived personalization → quality of C2C	−0.109 (ns)	0.382**
Familiarity among members → quality of C2C	0.501*	0.312*
Perceived personalization → brand community engagement	−0.059 (ns)	0.548**
Familiarity among members → brand community engagement	1.018**	0.461*

Notes: All entries are standardized regression weights. *,**Significant at 0.05 and 0.01 level, respectively

is a critical factor that influences brand community loyalty, which is in accordance with previous research on how interaction influences community behavior.

Perceived C2C interaction directly mediates the relationship through which functional, experiential benefits influence VBC loyalty, although not in perceived system interaction. Chan and Li (2010) also argued that for commitment behaviors, establishing an environment that can provide socio-emotional support between customers is needed; this research, in the same context, argues that in order to induce members' VBC loyalty, more than human-computer interaction and C2C interaction should be activated. More specifically, in terms of community provided benefits, for functional and symbolic benefits to have significant influence on VBC loyalty, C2C interaction is essential.

Meanwhile, our results are similar to those of Chan and Li's (2010) research. They stated that the structural route of interactivity has a significant, direct influence on reciprocity, but not on co-shopping. In this research also, human-computer interaction was found to have a significant influence on C2C interaction, but not directly on VBC loyalty. This is because VB members have a hedonic preference that emphasizes the social relationship rather than a utilitarian approach that values website efficiency and functionality (Chan and Li, 2010; Koufaris, 2002). For these reasons, experiential benefits and VC loyalty were directly mediated by human-computer interaction. Examples of how human-to-computer interaction mediates the influence of the experiential benefit on brand community loyalty include participating in brand community events and uploading photographs, which communicate members' loyalty directly to the community.

On the other hand, the perceived symbolic benefit was found to significantly influence C2C interaction only through human-to-computer interaction, which can be understood in the same way as Coleman's (1990) findings. Coleman (1990) stated that in a community, people not only have recognition of the self but also a responsibility toward the community.

Gummerus *et al.* (2012) stated that the entertainment benefit mediates the transactional behavior in brand community, and this research also confirmed that as the experiential benefit mediates community loyalty in all human-to-computer, C2C, and human-to-computer→C2C interactions, brand community loyalty and experiential benefit are most closely related. For a company, factors that add experiential benefit are necessary; providing games that several people can participate in is more beneficial than games for one user when encouraging brand community loyalty. However, Gummerus *et al.* (2012) stated that economic benefit, which is highly related to functional benefit, does not have any impact on community loyalty. In this research, it is argued that in order for a functional brand to have a positive, significant impact on community loyalty, mediation of C2C interaction should be a prerequisite. In existing brand communities, the focus is on the functional benefit, but in this case, this benefit must be relayed through interaction between participants.

Implications

This study extends the range of interaction research by suggesting the importance of the role of interaction for the brand community. Although interaction in an online community is important, compared to other community topics, this area has not been frequently considered (Nambisan and Baron, 2009; Zaglia, 2013; Wang *et al.*, 2013).

Several research studies have focussed only on website interactivity (Jee and Lee, 2002; Voorveld *et al.*, 2010; Wang *et al.*, 2012, 2013). Some previous studies on the VBC have only concentrated on customer interaction features, not taking into account a variety of interaction types such as computer-mediated or human-computer interaction (Bagozzi and Dholakia, 2006; Nambisan and Baron, 2009; Wang *et al.*, 2013).

However, the results above found that for each customer's perceived benefit to have a significant influence on community loyalty, member-to-member interaction was an essential factor. Specifically, it was confirmed that human-to-consumer interaction should come first as a precondition for C2C interaction. The impacts of human-to-computer interaction and C2C interaction on a brand community have been the focus of previous studies, but not the preceding factors that affect these variables. In future research, other than consumers' perceived benefits, preceding variables that could influence interaction should be studied as well.

Understanding customers' perceived benefits is significant for brands managing the customer experience and obtaining VBC members (Wang *et al.*, 2013). The above research induced an understanding of customers' perceived benefits with regard to community, customer-to-customer interaction, and human-computer interaction as prerequisite variables to increase members' VBC loyalty. This research proposes a marketing strategy to VBC administrators: through perceived human-computer interaction and customer-to-customer interaction, community benefits can encourage their brand community loyalty. Therefore, managers should come up with strategies for members to actively participate in community activities to motivate member-to-member interaction as part of the relationship-retaining strategy. Understanding C2C interaction not only brings friendly results to the company but also promotes customer learning (Dholakia *et al.*, 2009).

There have been research studies on the perceived benefits of a VBC influencing brand community results, but the related mechanism in this process has rarely been conducted. Also, there are many studies emphasizing the perceived benefits from the customer's point of view, but it is difficult to determine how this perceived benefit psychologically motivates brand community loyalty. This study enhances the understanding of the perceived benefit by considering the psychological path in the process on the outcome variables. In particular, in terms of business management, the above result implies that for companies to increase consumers' VBC loyalty, C2C interaction should be generated, but as a precondition, human-to-computer interaction is needed. Ultimately, for C2C interaction to take place through technology infrastructure and efficient software program establishment, interaction between the computer and customer should be facilitated (Chan and Li, 2010).

The objective of a community is to encourage community members to remain in the community for a length of time (Wang *et al.*, 2012). This study is meaningful in that it is about achieving ways of improving the loyalty of community members, which is the purpose of the research community.

Limitations and future research

Factors influencing interaction of a brand community will exist in contextual backgrounds as well. Wang *et al.* (2013) stated that brand identity positively influences interaction. It would be meaningful to conduct research on variables such as consumer characteristics, like motivation, that influence interaction.

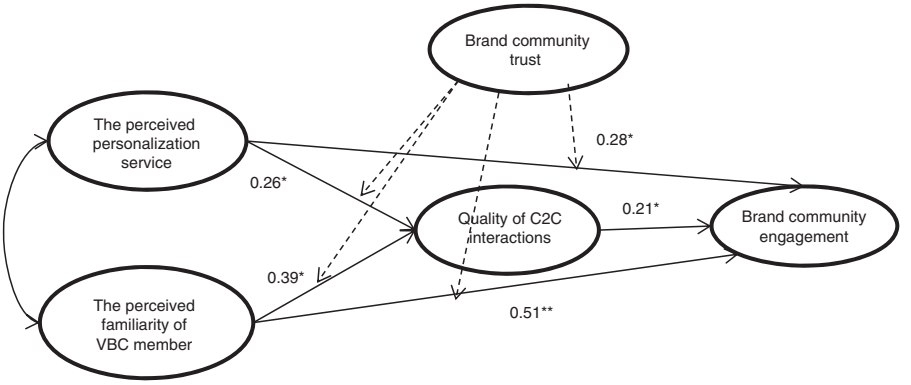
Meanwhile, there will be factors other than consumers' perceived benefits that might influence human-computer interaction and C2C interaction. Also, the positive influence that C2C interaction, human-computer interaction, and perceived benefits have on VBC loyalty can be moderated by various factors, such as intrinsic motivation, member personality, and brand community type, so future studies examining which factors have more significant effects should be conducted as well.

C2C interaction is divided into three levels – quantity, scope, and mode – and among them, determining which of them has a stronger impact on VBC loyalty requires future research. Quantity represents depth of interaction, scope means the extent of the interaction, and mode indicates difference in types of interaction (Roy *et al.*, 2004; Wu and Fang, 2010).

This research conducted surveys targeting VBC members in Korea. People from different cultures engage in different types of data processing and communication, and therefore it would be a mistake to overgeneralize the results (Teng and Laroche, 2007). In addition, in future studies, in order to reduce error, it would be advisable to limit the target group to a specific brand community's members to gain validity in the research.

This research designated factors that have a significant influence on brand community loyalty as benefits provided to members, member-to-member interaction, and human-computer interaction, which in turn served as the framework. However, according to Cheung and Lee (2009), there are individual-related factors that also influence attitudes toward the community (Wang *et al.*, 2012). In future research, expanding the research model to involve personal features would provide VBC managers with a macro-strategy in order to motivate brand community loyalty. For example, De Valck *et al.* (2009) classified community members into six types (core members, conversationalists, informationalists, hobbyists, functionalists, and opportunists), and this classification could serve as a moderating variable with regard to this research's conceptual framework.

Finally, the research method can be pointed out as a research limitation: the study was conducted on the internet, which might suggest an inadequacy of sample organization in the research population. In the future, using a more sophisticated sample would have a meaningful research result (Figure 1).



Notes: *$p<0.05$; **$p<0.01$

Figure 1.
Relationships among variables

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Corresponding author

Dong-Hee Shin can be contacted at: dshin1030@cau.ac.kr