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Relationship formation within online brand communities: Bridging the virtual and the real

Pei-Ling Hsieh ^a, Shang-Ling Wei ^{b,*}

^a Department of Marketing Management, Takming University of Science and Technology, Taiwan

^b Department of International Business, Shih Chien University, Taiwan

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ABSTRACT

To increase competitiveness, companies are increasingly using online brand communities (OBCs) to cocreate value for themselves and their consumers; however, evidence of the effectiveness of OBCs as a marketing tool remains mostly anecdotal. This study developed a framework for examining how the cocreation of value in OBCs can extend and improve brand relationships between corporations and consumers through combination with the integration of online and offline relationships. Sample 1, comprising 450 respondents, was used to investigate second-order OBC value cocreation and total measurement models. Sample 2, comprising 418 respondents, demonstrated that OBC value cocreation directly benefits consumer OBC commitment, thereby directly enhancing offline brand relationship quality (BRQ) and brand commitment as well as indirectly enhancing brand loyalty, and that BRQ directly benefits brand commitment and brand loyalty. This paper presents the research and managerial implications of these findings, as well as limitations and future research directions.

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1. Introduction

When an online community (OC) adopts a para-social approach to the understanding, connection, interaction, sensing, and cocreation of value in person–network, person–person, and person–organization relationships (Shen, Huang, Chu, & Liao, 2010), online brand communities (OBCs) can incorporate brands as the core of value cocreation, thus catalyzing the cocreation process through which consumers experience the brand and the brand owner improves the experience (Rageh Ismail, Melewar, Lim, & Woodside, 2011). This creates, maintains, and encourages brand relationships (Piyathananan, Mathies, Wetzels, Patterson, & de Ruyter, 2014–15). Therefore, OBCs have attracted considerable attention from both academics and marketers (Hamzah, Syed Alwi, & Othman, 2014; Saariluoma & Jokinen, 2014).

Relationship marketing involves establishing, developing, and maintaining a network of relationships among suppliers, service

personnel, customers, and other stakeholders, which includes problems with partnerships, alliances, intergrowth, and internal marketing (Morgan & Hunt, 1994). This concept has provided a breakthrough for studies on economics and marketing. In relationship marketing, the economic and marketing behaviors of supply-and-demand organizations and stakeholders no longer involve only absolute competition but also effective and diverse “coopetition.” The relationship-marketing model is ideal for describing the complex, continual, and diverse market relationship structures (e.g., Yang, Chao, Liu, & Chen, 2014). Therefore, such a model has been frequently applied in discussions regarding OBCs. However, empirical studies on OBCs have typically adopted a firm-based viewpoint, with a primary focus on firm activities, ceremonies, traditions, systems, communication quality, sponsorships, rewards, and bonuses (Adjei, Noble, & Noble, 2010; Jang, Olfman, Ko, Koh, & Kim, 2008; Kim, Choi, Qualls, & Han, 2008; Laroche, Habibi, Richard, & Sankaranarayanan, 2012). The stimulation–reaction structures in these studies have rarely been discussed from the viewpoint of market participant interactions (e.g., customer–firm and customer–customer). Furthermore, the development of OBCs overcomes the limitations of traditional individual transactions involving suppliers and customers and holistically gathers content cocreated by participants (Laing, Keeling, & Newholm,

* Corresponding author.

E-mail addresses: plhsieh@takming.edu.tw (P.-L. Hsieh), slwei@g2.usc.edu.tw (S.-L. Wei).

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2011). Value-cocreation information relating to marketing personnel is limited, which increases the difficulty of conducting relevant research (Ahn, Kwon, & Sung, 2010; Galvagno & Dalli, 2014).

Additionally, scholars have indicated the importance of thoroughly investigating mutual expansion and collective creation in online and offline settings (Jin & Zou, 2013; Pentina, Gammoh, Zhang, & Mallin, 2013). Relevant empirical studies have demonstrated brand relationship quality (BRQ) to be critical in generating continuity and spillover effects in subsequent associations between the consumer and brand and in stabilizing and sustaining the consumer–brand relationship (e.g., Huber, Vollhardt, Matthes, & Vogles, 2010). Accordingly, this investigation was intended to clarify the roles of OBC value cocreation and BRQ in the ensuing brand relationships. Therefore, this study reviewed the literature on brand relationship marketing models, OBC value cocreation, and BRQ in a conceptual framework and proposed various hypotheses. The following sections summarize the research methodology and results, and the final section discusses the primary results, presents the study implications and limitations, and suggests future research directions.

2. Theoretical background and hypothesis development

Previous studies have suggested that a website can be considered as representative of a business and, therefore, that the relationship between a website and its users resembles the business-to-consumer (B2C) relationship (Gefen, Karahanna, & Straub, 2003). Scholars have used the Morgan and Hunt (1994) business-to-business (B2B) relationship marketing model to devise online B2C models (e.g., Li, Browne, & Wetherbe, 2006). Moreover, the literature on social psychology and communication assumes that a consumer can be considered an agent that fulfills individual needs (McQuail, 1983), and thus that consumer–platform interactions resemble member-to-member and consumer-to-consumer (C2C) relationship interactions (Kim et al., 2008). In other words, the units that constitute a community, regardless of whether they are grouped or individual, must be considered “participants” to understand their interactions.

Regardless of the type of online or offline brand community (BC), loyalty is a critical outcome variable (Arora, 2009, pp. 7–21) and commitment is a crucial criterion in its development (Jacoby & Chestnut, 1978). Therefore, this study included OBC commitment in the construction of OBC participant (C2C) relationships (e.g., Kim et al., 2008), and used brand commitment and brand loyalty to represent OBC brand and participant (B2C) relationships.

After examining the antecedent factors of the OBC brand relationship model, this investigation found that the most crucial value in OBCs is cocreation (Schau, Muñiz, & Arnould, 2009), which involves experiences, interactions, and relationships among participants and networks (Hsieh, 2015). Following an analysis of leading e-commerce journals from 2000 to 2015, Hsieh (2015) performed qualitative and quantitative analyses that involved scale replications across industries and consumer traits using various samples. Hsieh demonstrated the robust psychometric properties of the OBC value cocreation model, which includes the dimensions of experience, interpersonal interactions, and social relationships. According to our research, this study is currently the most complete investigation of OBC value cocreation. Consumers who share enjoyable and innovative experiences, engage in reciprocal and synchronous interpersonal interactions, and maintain ongoing and iterative social relationships experience high value (e.g., Cheung, Chiu, & Lee, 2011; Kohler, Fueller, Matzler, & Stieger, 2011; Larivière et al., 2013; McAlexander, Schouten, & Koenig, 2002; McColl-Kennedy, Vargo, Dagger, Sweeney, & van Kasteren, 2012; Moeller, Ciuchita,

Mahr, Odekerken-Schröder, & Fassnacht, 2013; Pongsakornrungrasit, Bradshaw, & Schroeder, 2008; Porter, Donthu, MacElroy, & Wydra, 2011) and develop increased willingness to commit to (or engage in) OBCs (Brodie, Ilic, Juric, & Hollebeek, 2013; Jang et al., 2008; Kim et al., 2008; Laroche et al., 2012; Wirtz et al., 2013). This study proposed and tested Hypotheses 1-1 to 1-3 to assess the effects of the development of the three OBC values on OBC commitment (Fig. 1).

H1-1. Experience value is positively associated with OBC commitment.

H1-2. Interpersonal interaction value is positively associated with OBC commitment.

H1-3. Social relationship value is positively associated with OBC commitment.

Other scholars have asserted that consumers display different overall response levels toward OBCs and associated brands (Zhou, Zhang, Su, & Zhou, 2012). In other words, when consumers perceive the cocreation of value in OBCs, they develop commitment toward those OBCs. Subsequently, this commitment becomes linked with people and things (such as the brand) that are related to the community, linking OBC commitment (or engagement and attachment) with brand commitment (Brodie et al., 2013; Kim et al., 2008; Wirtz et al., 2013) and loyalty (or purchase intention) (Brodie et al., 2013; Gupta, Kim, & Shin, 2010; Jang et al., 2008; Pai & Tsai, 2011). This study thus proposed H2-1 and H2-2 regarding OBC commitment–brand commitment and OBC commitment–brand loyalty relationships.

H2-1. OBC commitment is positively associated with brand commitment.

H2-2. OBC commitment is positively associated with brand loyalty.

The link between brand commitment (or product attachment) and brand loyalty (or purchase intention, word of mouth, and cross-over buying) in both virtual and real-world contexts is widely recognized (e.g., Huang, Fang, Huang, Chang, & Fang, 2014; Kim et al., 2008; Wirtz et al., 2013). Therefore, this study proposed H3, which links brand commitment with brand loyalty.

H3. Brand commitment is positively associated with brand loyalty.

The prevalence of virtual communities does not suggest the

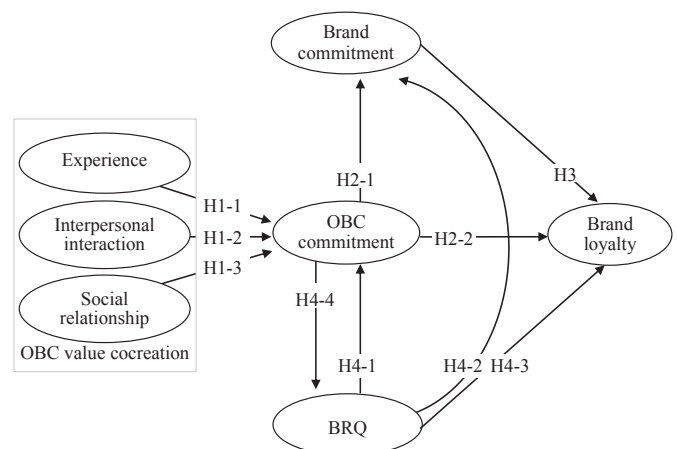


Fig. 1. Conceptual framework.

elimination of offline activity. Scholars of technology recognize the power of integrating online and offline connections (Herhausen, Binder, Schoegel, & Herrmann, 2015). The brand experiences of OBC participants include all positive or negative perceptions of the parent brand, which are processed in multiple ways to yield balanced and dissonant messages and relationships. Scholars have indicated that BRQ can clearly reflect the factor spectrum of consumer–brand relationships (Huber et al., 2010; Smit, Bronner, & Tolboom, 2007). BRQ precedes and parallels social networks (such as BC), providing consumers with the functional and symbolic values and benefits of a brand, and causing them to identify with the brand and to seek and interact with like-minded users. Furthermore, such sharing of enthusiasm strengthens consumer BC attachment, brand commitment, and brand loyalty (or purchase intention, word of mouth, and cross-over buying) (Algesheimer, Dholakia, & Herrmann, 2005; Huang et al., 2014). Therefore, when consumers and brands share a strong BRQ, they can more enthusiastically work with the corresponding BC and participants (BC commitment) and maintain their relationship with the original brand (brand commitment and loyalty). This study reviewed previous research within an offline BC and adapted it for the OBC context, and proposed H4-1 to H4-3 relating to the BRQ–OBC commitment, BRQ–brand commitment, and BRQ–brand loyalty relationships.

H4-1. BRQ is positively associated with OBC commitment.

H4-2. BRQ is positively associated with brand commitment.

H4-3. BRQ is positively associated with brand loyalty.

BRQ is a cumulative concept that integrates brands, consumers, and the impressions and images of perceived by consumers (Algesheimer et al., 2005; Huang et al., 2014). In an OBC environment, BRQ is a much more dynamic and active process in which the feelings and attachments of participating consumers are synchronously converted into BRQ. Thus, besides the aforementioned BRQ–OBC commitment path (H4-1), an OBC commitment–BRQ path is derived. The OBC commitment–BRQ path, which was not identified in any previous study on online and offline BCs, was included in the current study in a bidirectional relationship with the BRQ–OBC commitment path (H4-1), thus yielding H4-4:

H4-4. OBC commitment is positively associated with BRQ.

3. Research methods

3.1. Operational definitions of research variables

This investigation draws on the marketing, information systems, and community psychology literature. Three subdimensions (experience, interpersonal interaction, and social relationship) were used to construct a cocreation metric for an OBC (Hsieh, 2015). Of these subdimensions, experience is an overall assessment of functional and experiential benefits and sacrifices, involving purposive values that are informational and instrumental, and emotional values related to the provision of entertainment, excitement, and escapism. Interpersonal interaction involves the overall assessment of the personal integrative relationship, and the feedback and exchange of information and communication. This emphasizes people's identities and roles in virtual relationships and the timely, autonomous exchange of information. The social relationship dimension is derived from an overall assessment of the social integrative relationship among participants based on social and collective exchanges via virtual networks.

This investigation incorporated BRQ into the model to

determine whether the link between consumers and offline brand relationships persists when consumers shift from the real world to OBCs, which creates an opportunity for the relevant brand to further develop in those OBCs. Likewise, OBC development affects brand development. Algesheimer et al. (2005) stated that BRQ is based on an overall assessment of overlapping image between brands and consumers, and denotes the degree to which consumers view a brand as a satisfactory long-term partner. BRQ thus can produce continued influence as consumers shift between the real and virtual environments. The model uses the scale proposed by Algesheimer et al.

OBC commitment reflects intense participation in an OBC and strong positive feelings among OBC participants (Gupta et al., 2010; McWilliam, 2000). Brand commitment comprises emotional or affective attachment to a brand (Fournier, 1998). Finally, brand loyalty is demonstrated by an attitude of attachment to a brand, or by the repeat purchase of brand products or services (Chaudhuri & Holbrook, 2001; Jang et al., 2008). Table 1 lists the measurements and sources of the research variables. All research constructs were assessed using a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*).

3.2. Data collection

Following a 2-month survey period, two samples were gathered for evaluation. Sample 1 verified the measurement model and Sample 2 tested the structural model. Sample 1 comprised undergraduate and graduate students from several universities. Sixteen research assistants distributed self-report questionnaires for respondents to assess their overall OBC experiences of a focal brand that they had experienced within the preceding 6 months. The respondents were instructed not to complete the questionnaire if they had no OBC experience during the previous 6 months. Sample 1 contained 450 usable responses, and respondent ages ranged from 19 to 45 years; 56.44% were female. Table 2 lists the sample characteristics.

The method of Shen et al. (2010) and Garnefeld, Iseke, and Krebs (2012) was adopted in Sample 2 to include OBCs from the largest and most widely known OC platforms (i.e., MySpace, Facebook, and YouTube). The OBCs using these platforms appear in various forms (e.g., bulletin board systems [BBSs], chat rooms, blogs, and forums) and cover products and services, interfaces, games, and avatars (e.g., electronics, automobiles, consumer goods, luxury goods, finances, and Internet and telecommunications) (Barnes & Mattsson, 2011). Respondents from OBCs who used different products or services were randomly selected using a sampling schedule that employed random timeframes. The respondent selection criteria were the same as for Sample 1. Excluding incomplete responses, the sample size was 418. The respondents, of whom 64.11% were female, were aged from 16 to 62 years.

4. Results

4.1. Measurement model results

First, this investigation analyzed Sample 1 by using the measurement model. Because the OBC value-cocreation scale employed was a second-order model comprising three subdimensions and 12 items, a second-order confirmatory factor analysis (CFA) was performed. The CFA results indicated favorable goodness of fit ($\chi^2 = 185.47$, $d.f. = 48$, $p < 0.00$, $\chi^2/d.f. = 3.86$, RMSEA = 0.080, GFI = 0.94, AGFI = 0.90, NFI = 0.97, NNFI = 0.97, CFI = 0.98) and all the standardized factor loadings (SFLs) were significant (with all t values at the $p < 0.00$ level) (Table 1). The combined reliability of the 12-item scale was high (0.90), indicating high internal consistency among items.

Table 1
Measurement items and validity assessment.

Variable/Measurement	Source	Second-order OBC value cocreation CFA		Total measurement model CFA	
		SFL		SFL	α /CR/AVE
OBC value cocreation:					
<i>Experience:</i>					
EX1	I accomplish just what I want to in this OBC participation.	Hsieh (2015)	0.73		
EX2	While participating in this OBC, I find just the information or services I am looking for.		0.79	0.78	0.86/0.85/0.53
EX3	During the OBC participation, I feel the excitement of the hunt.		0.75	0.74	
EX4	While participating in this OBC, I feel a sense of adventure.		0.64	0.65	
EX5	I enjoy immersion in exciting new information or services in this OBC.		0.69	0.70	
			0.76	0.76	
<i>Interpersonal interaction:</i>					
II1	I can exchange information and interpersonal exchanges in this OBC.		1.23	0.61	0.83/0.83/0.50
II2	I can inquire and get response speedily in this OBC.		0.66	0.68	
II3	I derive satisfaction from increasing other participants' knowledge of brand matters in this OBC.		0.63	0.80	
II4	I can enhance my status/reputation as a brand expert in this OBC.		0.76	0.70	
II5	I can influence other people's knowledge of brand matters in this OBC.		0.66	0.73	
<i>Social relationship:</i>					
SR1	I can expand my personal network in this OBC.		0.58	0.85	0.81/0.81/0.69
SR2	I can enhance my connection with other participants in this OBC.		0.86	0.81	
			0.80		
Brand relationship quality (BRQ):					
BRQ1	This brand says a lot about me.	Algesheimer et al. (2005)		0.78	0.83/0.81/0.58
BRQ2	This image of the brand and my self-image share many similarities.			0.73	
BRQ3	This brand is important in my life.			0.78	
OBC commitment:					
OBCC1	I feel psychological attachment to the participants of this OBC.	Gupta et al. (2010)		0.82	0.88/0.88/0.65
OBCC2	I actively contribute to this OBC.			0.78	
OBCC3	I invest effort in the success of this OBC.			0.85	
OBCC4	I am proud to belong to this OBC.			0.77	
Brand commitment:					
BC1	I feel psychological attachment to the brand.	Kim et al. (2008)		0.88	0.89/0.89/0.73
BC2	I think that using this brand is important.			0.87	
BC3	I hope the brand enjoys success.			0.81	
Brand loyalty:					
BL1	I intend to keep purchasing this brand.	Chaudhuri and Holbrook (2001); Gupta et al. (2010); Jang et al. (2008)		0.66	0.80/0.81/0.52
BL2	I would be willing to pay a premium for this brand over other brands.			0.68	
BL3	I will recommend this brand to others.			0.84	
BL4	I will buy this brand the next time I buy [product/service name].			0.69	

Table 2
Sample characteristics.

Sample 1 (n = 450)		Sample 2 (n = 418)	
Products/Services^a		Products/Services	
Electronics	25.1%	Electronics	17.7%
Automobiles	4.0%	Automobiles	7.7%
Consumer goods	20.4%	Consumer goods	33.7%
Luxury goods	5.8%	Luxury goods	6.2%
Finances	4.0%	Finances	9.1%
Internet/Telecommunications	40.7%	Internet/Telecommunications	25.6%
OBC forms^b		OBC forms	
BBS	26.9%	BBS	23.5%
Chat room	28.4%	Chat room	25.8%
Blog	24.9%	Blog	28.7%
Forum	19.8%	Forum	22.0%

^a Products/Services denote the products/services of the respondent-selected OBC.

^b OBC forms represent the main electronic method that a respondent used to access the focal OBC on the survey.

The total measurement model estimation employed a seven-variable (experience, interpersonal interaction, social relationship, BRQ, OBC commitment, brand commitment, and brand loyalty), 26-item CFA model that comprised five items related to experience (EX), five items related to interpersonal interaction (II), two items related to social relationship (SR), three items related to BRQ (BRQ), four items related to OBC commitment (OBCC), three items related to brand commitment (BC), and four items related to brand loyalty (BL) (Table 1). The analytical results indicated a satisfactory fit ($\chi^2 = 924.21$, $d.f. = 271$, $p < 0.00$, $\chi^2/d.f. = 3.41$, RMSEA = 0.073, GFI = 0.86, AGFI = 0.82, NFI = 0.97, NNFI = 0.97, CFI = 0.98). The Cronbach's alphas (α s) and composite reliabilities (CRs) all exceeded the acceptable level of 0.80, and the average variance extracted (AVEs) exceeded 0.50 in all cases, indicating high internal consistency. Regarding construct validity, all SFLs of the CFA model were significant and exhibited convergent validity. Moreover, the values of cross-construct correlation markedly differed from 1.0. The values were obtained from the confidence interval (CI) for each pairwise correlation estimate (± 2 standard errors), except when the CI had a value of unity, and by performing a χ^2 test to determine

the difference between the chi square of the phi paths (constrained to 1.0 or free) excluding nonsignificant values of $\Delta\chi^2$. Both settings yielded discriminant validity. These results demonstrated the construct validity of the measurement model.

4.2. Structural model results

The structural model was tested using Sample 2. The overall fit statistics indicated acceptable fit between the hypothesized model and the data ($\chi^2 = 800.57$, $d.f. = 279$, $p < 0.00$, $\chi^2/d.f. = 2.87$, RMSEA = 0.067, GFI = 0.87, AGFI = 0.84, NFI = 0.97, NNFI = 0.97, CFI = 0.98); however, not all relationships were significant and trended in the expected direction (Table 3). Therefore, this study deleted the two unsupported hypotheses (H2-2 and H4-1). The final model exhibited improved overall fit statistics ($\chi^2 = 795.76$, $d.f. = 281$, $p < 0.00$, $\chi^2/d.f. = 2.83$, RMSEA = 0.066, GFI = 0.87, AGFI = 0.84, NFI = 0.97, NNFI = 0.98, CFI = 0.98); furthermore, all the relationships were significant and trended in the expected direction (Fig. 2). The squared multiple correlations (SMCs) of BRQ, OBC commitment, brand commitment, and brand loyalty were 34%, 71%, 76%, and 77%, respectively.

5. Discussion and conclusion

5.1. Summary of findings

Empirical processes verified that the following dimensions exhibited a direct relationship with OBC commitment: experience, interpersonal interaction, and social relationship (H1-1, H1-2, and H1-3 were supported). Additionally, the subsequent influences of OBC commitment on brand commitment and BRQ were verified (H2-1 and H4-4 were supported), despite though no link with brand loyalty was observed (H2-2 was not supported). The positive correlation between brand commitment and loyalty was significant (H3 was supported). BRQ strongly influenced brand commitment and loyalty (H4-2 and H4-3 were supported). However, BRQ was not correlated with OBC commitment (H4-1 was not supported). Furthermore, according to the results of the SMCs, except BRQ, the model explained over half of the variance in OBC commitment, brand commitment, and brand loyalty.

5.2. Research implications

The academic implications of this study are twofold. First, this study adopted the scales of Hsieh (2015) and Algesheimer et al. (2005) to measure OBC value cocreation and BRQ, respectively. Both models achieved strong goodness of fit.

Second, this investigation used the influences on brand relationship that comprise OBC value cocreation and BRQ. The three

constructs of value cocreation explained as high as 71% of the variance in OBC commitment (H1-1, H1-2, and H1-3), which affected brand loyalty through the mediation of brand commitment (H2-1 and H3). This finding invalidated the direct relationship between OBC commitment and brand loyalty (H2-2). Brodie, Ilic, Juric, and Hollebeek (2013) conducted an exploratory study proposing a relationship between OBC commitment and brand loyalty but did not validate the relationship; however, the significance of this relationship has been empirically confirmed by Gupta et al. (2010) and Pai and Tsai (2011), who focused on suppliers' OBCs (e.g., official websites), and Jang et al. (2008), who investigated the consumer communities of global brands. Whereas these previous studies analyzed the OBC participation experiences of specific brands or suppliers, the current study explored the recent OBC participation experiences of any virtual communities of any brands or suppliers. The difference between the experiences explored in previous study and this study is that in previous studies, the participants acknowledged or focused more on familiar brands or suppliers. The participants of this study instead engaged in OBCs relatively spontaneously, possibly by accidental, and thus had a lower brand involvement. Therefore, these participants made similar decisions as did inexperienced consumers, and these decisions evolved along the step-by-step path: OBC value cocreation—OBC commitment—brand commitment—brand loyalty.

Moreover, whereas the OBC commitment—BRQ path (along which consumers integrated all their feelings and attachments into BRQ during OBC participation (H4-4)) existed but explained only 34% of variance in BRQ, the opposite BRQ—OBC commitment path did not exist (H4-1). The low explanatory power of variance of the OBC commitment—BRQ path was because the cumulative nature of BRQ makes it susceptible to the influence of not just OBC environments but also other constructs. Past studies confirming the BRQ—OBC commitment relationship have focused only on the brand experiences of brand devotees or experts in offline BCs (Algesheimer et al., 2005; Huang et al., 2014). These participants had high brand involvement and obtained more concrete information in the offline settings than in the online settings; such conditions indicate higher BRQ strength, which contributed to the influence of BRQ on OBC commitment. By contrast, the participants of this study varied in their understanding of brands and the transformation of BRQ into OBC commitment did not occur smoothly during their simulated OBC participation. Overall, when OBC commitment affected BRQ, BRQ did not react synchronously to OBC commitment, but instead followed the normal developmental course of brand relationship to form the paths of BRQ—brand commitment (H4-2) and BRQ—brand loyalty (H4-3).

Notably, this study examined diverse virtual communities established by suppliers and consumers and recruited OBC participants with varying degrees of involvement in brands with varying

Table 3
Results of the original model.

Relationship	Result	
H1-1: experience → OBC commitment	0.33 (3.31) ^{a*}	support
H1-2: interpersonal interaction → OBC commitment	0.51 (3.46) [*]	support
H1-3: social relationship → OBC commitment	0.22 (2.39) [*]	support
H2-1: OBC commitment → brand commitment	0.37 (7.76) [*]	support
H2-2: OBC commitment → brand loyalty	−0.01 (−0.20)	not support
H3: brand commitment → brand loyalty	0.35 (3.43) [*]	support
H4-1: BRQ → OBC commitment	−0.25 (−3.28) [*]	not support
H4-2: BRQ → brand commitment	0.61 (11.12) [*]	support
H4-3: BRQ → brand loyalty	0.57 (6.35) [*]	support
H4-4: OBC commitment → BRQ	0.70 (9.98) [*]	support

* $p < 0.00$, two-tailed.

^a Completely standardized coefficient, t -value appear in brackets.

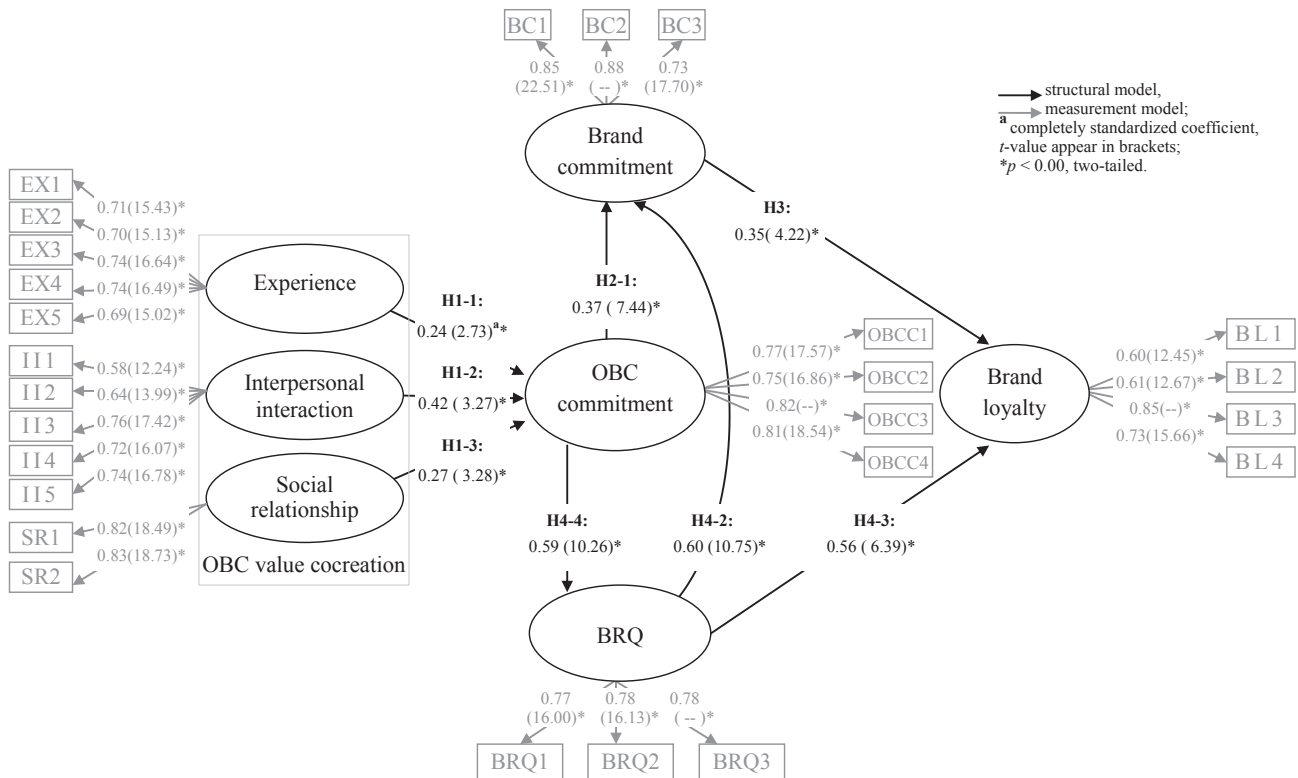


Fig. 2. Estimated model (final model).

degrees of prestige, thereby providing a clearer illustration of OBC settings than have previous studies. However, the participant responses obtained in this study were relatively ambiguous and varied, resulting in the statistical nonsignificance of some hypotheses.

5.3. Managerial implications

This study measured the effects of value cocreation and BRQ on OBC brand relationship. The hypothesis models have high explanatory power over the variance in the outcome variables of brand relationship (OBC commitment, 71%; brand commitment, 76%; and brand loyalty, 77%). Thus, social media reporting of OBC should focus more on value cocreation and BRQ. Implications for brand vendors drawn from the OBC observation based on both constructs are provided in the following paragraphs. Moreover, this study argues that consumers may participate in OBCs without any preconceptions, and may develop OBC commitment that enables BRQ to accumulate; however, brand commitment, which contributes to brand loyalty, mediates the influence of OBC commitment on the development of brand relationship. By contrast, BRQ directly affects brand commitment and loyalty, indicating the direct influence of BRQ on brand relationship in offline settings, when OBC commitment indirectly transitions to brand loyalty through BRQ and brand commitment in online-to-offline settings.

Because consumer OBC value cocreation is three-dimensional, these values strongly influence consumer brand relationships. Vendors should therefore reorganize and improve these dimensions, regardless of whether the OBCs are developed by vendors or consumers. Vendors must accumulate experience before developing and maintaining a strong OBC. Participants should be provided with a utilitarian experience by using a complete social media platform. The contents and topics of discussion found on

OBC homepages enable participants to share personal experiences. Smart devices enable participants to navigate through virtual space without temporal or spatial constraints, and to easily share their experiences with others around the world. Consumers may create compelling stories, both personal and collective. Hence, OBCs facilitate the complete documentation of individual or collective consumer data and preferences, as well as the establishment of a database thereof, and also evoke consumers' emotions, causing people to enjoy and appreciate the community. These features offer participants an exciting, adventurous, and novel experience.

Regarding OBC interpersonal interactions, it is crucial to ensure prompt answers to consumer questions and the implementation of active information exchanges and interpersonal interactions. A rating and feedback mechanism can be developed to enable leaders and participants to exchange status updates, thereby encouraging the participation of brand experts. Additionally, timely recognition, rewards, and support (e.g., through promotions and contests) should be provided to members to reward their efforts and revitalize the network. OBCs can operate successfully and smoothly by using favorable OBC policies and practices. Moreover, vendors must learn to embrace negative comments and opinions.

Building an OBC social relationship network requires devising a strategic plan to encourage participants to communicate and express their opinions, enabling vendors to cooperate to achieve an opinion group that fosters prosperous social interaction. Furthermore, by hosting events, such as seminars and gatherings, vendors can effectively share brand elements (e.g., rituals, traditions, and meanings) with members, strengthen the OBCs, and attract additional members.

Furthermore, the model developed in this study demonstrated that consumer BRQ was a critical antecedent factor in forming brand commitment and loyalty. This result is extremely useful in practice, particularly when original consumers of a brand differ

significantly from OBC participants. When this occurs, vendors can direct existing customers to the OBC, which enables the original customers to transition from an offline environment to a virtual environment and allows them to interact with other online members, thus fostering novel brand experiences and developing subsequent brand relationships. OBC participants with low brand involvement can observe other participants' BRQ, improve their understanding of the brand, and discuss their approval of the brand within the OBCs.

OBCs may be created to support the divisions of brands or subsidiary products (e.g., the Apple iPod Touch). However, OBCs can increase the connection and cultivate brand relationships between consumers and companies (e.g., Apple). Therefore, vendors must manage the overlapping effects of various OBCs on both consumers and companies. Issues have resulted from the diversity of information and communities available to OBC participants. Moreover, reasons for joining an OBC and topics of interest to participants may be different or even unrelated to the brand. When facing the online environment, vendors are frequently unaware of all existing OBCs and cannot understand and manage them all.

5.4. Limitations and future directions

This study has several limitations that can be addressed in future research. First, the results may have been confounded by common method variance because all construct questions were collected simultaneously and by using the same survey instrument. Moreover, to ensure that the subjects in this investigation clearly understood the questions, they were asked to specify the brands and interfaces (BBs, chat rooms, blogs, or forums) referred to and provide answers related only to OBCs in which they had participated in the preceding 6 months. Although this obtained satisfactory results, because brands, origins, communities, and industries coexist, it is necessary to generalize and theorize the working mechanisms of OBCs and obtain more sample responses that can be extrapolated to the entire domain (Jang et al., 2008).

Second, this investigation combined the scales of Hsieh (2015) and Algesheimer et al. (2005) in developing its new scale to formulate the OBC process. As with the thoroughly tested and verified value-cocreation scale of Hsieh, such a scale should include variables such as feelings about the brand (Barnes & Mattsson, 2011) alongside BRQ. Furthermore, when investigating multiple coexisting groups, perceived similarities can align these group members (Casaló, Flavián, & Guinalíu, 2013), which necessitates further consideration. Scholars have indicated that the similarities between the communication realms (BC and brand) affect the subsequent development of relationships among consumers, communities, and brands (Zhou et al., 2012). Additionally, not only do the paths from OBCs to brands require consideration, but the reverse effect of brands on themselves must also be evaluated (Algesheimer et al., 2005). Future studies should include additional factors and correlations to accurately reflect actual situations. Also, future investigations should employ a longitudinal design to capture OBC and brand relationship dynamics (Zhou et al., 2012).

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