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REGULAR PAPER

Understanding community citizenship behavior in social networking sites

An extension of the social identification theory

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Abstract

Purpose – Social media platforms established social relationship between the consumer and the brand community. The purpose of this paper is to propose a model to understand how dual-identification impact on the community citizenship behavior (CCB). Specifically, the authors propose perceived community-brand similarity (PCBS) influence CCB via dual-identification and brand passion (BP).

Design/methodology/approach – The research sample consists of 323 members who have used Apple product and used Apple fan page for more than one year, and structural equation modeling was used to test the research hypotheses.

Findings – The results indicated that PCBS directly influenced brand identification (BI) and community identification (CI), respectively. BI directly influenced CI. CI directly influenced BP, but BI not directly influenced BP. In the mediation effects, both the dual-identification factors and BP play important mediating roles.

Practical implications – From a managerial standpoint, this research provides implications for social network sites management.

Originality/value – This research fills a void in the BI and CI are coexisting but distinct aspects of virtual communities. In addition, the mediating role of dual-identification factors and BP in the online community consumer-brand relationship has not been fully investigated.

Keywords Social identity theory, Brand fan page, Brand passion, Community citizenship behaviour, Perceived community-brand similarity

Paper type Research paper

1. Introduction

Contemporary marketing literature focussed on social media platforms, which used to maintain the relationships between consumers and brands (Kim and Ko, 2012; Laroche *et al.*, 2012; Schau *et al.*, 2009). Among 1.5 billion social media users, 55 percent of those who follow brands through brand fan pages (Inside Consulting, 2012) to establish relationships between themselves and the brands (Belleghem *et al.*, 2011). This trend shows that social media substantially influences consumer decision-making processes. Therefore, numerous



enterprises have managed consumer relationships by using brand fan pages (Laroche *et al.*, 2013). Recent studies of consumer identification, which have become the core theory for understanding the management of customer relationship. The mainstream of the literature can be divided into two parts, including interpretative/sociological approaches and psychological approaches. Though sociology explained the structural development of the identification process, psychology focussed on the exploration of appropriate procedure on personal level (Hsu, 2012; Ravasi and van Rekom, 2003).

From the perspective of social identity theory (SIT), consumers generated pro-brand behaviors based on their brand relationships because of their identification with focal brands or companies (He *et al.*, 2011). Hence, SIT was adopted to examine online communities, exploring how virtual brand communities affected brand relationships (Zhou, 2011), and clarifying the substantial influences that virtual community member interactions exerted on brands. Community research tended to analyze single identification concepts (He *et al.*, 2011; Zhou, 2011); ignoring that brand identification (BI) and community identification (CI) coexisted with distinct aspects of virtual communities. Certain studies only considered BI from a single perspective (Becerra and Badrinarayanan, 2013; Kuenzel and Halliday, 2010; Tuškej *et al.*, 2013), whereas others only adopted CI perspectives (Algesheimer *et al.*, 2005; Chang *et al.*, 2013; Huang, 2012). Although recent studies have acknowledged that BI and CI phenomena occur in communities, they have failed to investigate the context of BI and CI. Previous studies could not clearly explain the formation of personal motives to produce the intermediary mental process of decision-making behavior for community members. This study bridged this gap. Thus, this study argued that brand community studies should distinguish BI and CI, which were not parallel concepts; rather, BI both yielded and served as the antecedent for CI.

This research proposed two research standpoints based on the foundation of SIT. First, regarding exogenous factor, researchers reported that perceived community-brand similarity (PCBS) influenced the sense of belonging (Stokburger-Sauer *et al.*, 2012; Tuškej *et al.*, 2013), attitudes, and loyalty toward brands (Kressman *et al.*, 2006; Sirgy *et al.*, 2008). Social interactions among virtual community members may influence the relationships among consumers and brands (Veloutsou and Moutinho, 2009). Organizational behavior researchers recognized that members of homogeneous organizations tended to develop high levels of organizational identification (Ashforth and Mael, 1989). When people possessed similar characteristics, they were willing to communicate with and trust each other, forming relationships (Lazarsfeld and Merton, 1954); however, the prerequisites of CI were rarely discussed (Casaló *et al.*, 2013; Hsu *et al.*, 2012; Scarpi, 2010; Tsai *et al.*, 2012). Thus, this research investigated how PCBS influenced BI and CI, respectively.

Second, regarding socio-psychological factors, in addition to SIT, it should consider the brand-induced emotional reactions of consumers. The consumer-brand relationships of previous studies focussed on brand trust (e.g. Becerra and Badrinarayanan, 2013; Schallehn *et al.*, 2014) and brand attitude factors (Keng *et al.*, 2014). A critical aspect of consumer-brand relationships is that when consumers hold positive and excited feelings toward brands, they can form close emotional connections to those brands. When consumers became obsessed, they were eager to maintain long-term relationships with brands (Albert *et al.*, 2013) and tended to provide positive recommendations and word of mouth for their favored brands. Thus, the brand passion (BP) of community members can be a key mediator between identification factors and community citizenship behavior (CCB).

This study adopted SIT as the extension basis for constructing the theoretical model. The key contributions of this research are described below. First, this study extends the perspectives from physical BI to CI, rather than a single perspective of traditional view. Second, this study completely demonstrates the influence of dual perspectives of SIT on BP. Third, this study investigates the mediation effects of BI, CI, and BP simultaneously in the research model. Based on the research background and motivations, the research objectives are as follows: first, investigating how PCBS influenced BI and CI, respectively; second, examining the relationships between BI and CI within SIT to verify how BI influenced CI; third, exploring how BI and CI influenced BP, respectively; fourth; investigating how BP influenced CCB; and fifth, examining how BI, CI, and BP played the mediating roles.

The rest structure of this paper is organized as follows. The second part is the explanation of the theoretical basis for research model, literature review, and the hypotheses arguments. The third section describes research methodology. The fourth part is the results of data analysis. The last part is the research and managerial implications, research contributions, limitations of this study, and future research directions.

2. Literature review and hypotheses development

This research based on the SIT to extend the PCBS beyond the external view, to further explore the community members' BI and CI affect the subsequent variables, BP and CCB. Figure 1 demonstrates the proposed model.

2.1 Social identification theory

SIT can clearly illustrate the concept of the membership for the virtual community members and the interaction with others in the virtual community (Sproull and Faraj, 1997). SIT is a universal theory of group course and the relationship between intergroup, which can effectively explain the difference between group phenomenon and interpersonal phenomenon (Hogg and Abrams, 1988; Turner, 1982). SIT is appropriate for the depth study of the relationship context for community issues.

SIT can be used in different context, including the relationships between employer in the organization issue, which main focusses on the employee identification to the

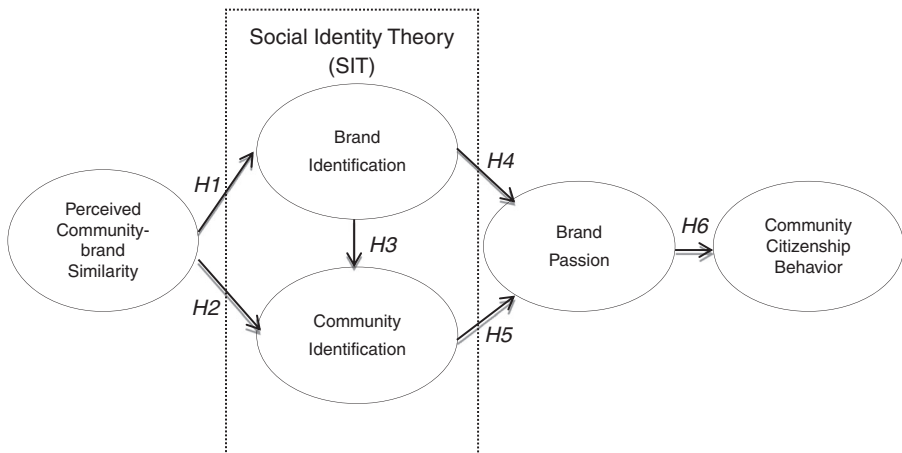


Figure 1.
Proposed model

organization or the manager. Previous studies confirmed that the employee identification had lower turnover rate (Bergami and Bagozzi, 2000; Dutton *et al.*, 1994). In the customer research, marketing personnel tries to identify the consequences of customer behavior. Del Rio *et al.* (2001) distinguished identification into personal identification and social identification (Carlson *et al.*, 2008). Personal identification indicates that consumer can identify a particular brand and produces the affinity emotion to this brand. Social identification referred to the brand could be a communication tool and formed the most intimate social environment with the ability to integrate dispersed group (Del Rio *et al.*, 2001, p. 412). One of the key factors was the brand choice (Ahearne *et al.*, 2005). The purchase behavior of consumer might be affected by personal identification, regardless of an organization or a brand (e.g. BI) and influenced by other brand users and the relationships with others (such as CI) in online community context (Algesheimer *et al.*, 2005; Bagozzi and Dholakia, 2006; Hsu, 2012). Furthermore, consumers used brand fan pages to establish relationships with brands and other consumers and developed a sense of belonging or self-expression (McAlexander *et al.*, 2002).

2.2 The impact of PCBS on BI

People determined their resemblance to others based on similarity, verifying that their thoughts and ideas were sanctioned, correct, and meaningful (Festinger, 1954). People actively searched for similarities with others to enhance their self-evaluation and improvement (Wood, 1989) and accentuated their differences from others (White, 2008). Thus, comparing similarities enabled people to self-define and formed group relationships (Ellegaard, 2012).

Zhou *et al.* (2012) extended the concept of brand personification developed by Aaker (1997), stating that brand communities were endowed with or developed specific personalities or characteristics. If the attributes constructed or presented by the brand community are disparate from the brand characteristic it may be difficult to establish connections among brand members and the community. PCBS refers to the level of similarity between the brand community characteristics perceived by community members and the brand characteristics (Zhou *et al.*, 2012). A brand community was a brand-oriented consumer group (Carlson *et al.*, 2008), comprising brand adorers who were interested in or enthusiastic about a brand and shared brand-related information and experiences. The brand facilitated self-definition for these consumers; thus, when the brand became a cue for recognition (Schmitt, 2012), it could generate an inspirational group comprising brand members who conducted upward comparisons. Such inspirational groups influenced individual values and attitudes toward the brand (Escalas and Bettman, 2003).

Yeh and Choi (2011) argued that a brand community was a community that viewed the brand as its core value. The CI of members is brand-oriented and brand communities regard as brand subgroups. Organizational researchers have stated that varying subgroups can simultaneously exist within an organization, developing specific subcultures; these cultures are not necessarily compatible or consistent with the organization. Therefore, members must establish connections with and receive support from various subgroups to develop identification relationships (Rink and Ellemers, 2007). Concerning the relationships between brands and brand communities, the characteristics developed by brand community members did not necessarily correspond with the brand characteristics; however, a brand community comprised members who adored that brand (Muniz and O'Guinn, 2001) and may establish

characteristics that other members were eager to possess. Therefore, brands become crucial resources enabling brand members to establish self-concepts. Member interaction and share of brand information in brand communities enable community members to perceive the connections and similarities between brand communities and brands, deepening their BI. Therefore, the following hypothesis is proposed:

H1. PCBS significantly and positively influences BI.

2.3 The impact of PCBS on CI

When people perceive a high level of similarity between them and a comparative other, they may feel they share similar attributes with those who exhibited outstanding or admirable characteristics. It might particularly enhance their positive self-perception, self-esteem, and self-praise if these shared attributes were not typical or common (Brown *et al.*, 1992). Self-assessment is an essential component of social identification and self-esteem is a motivation for people to participate in groups. Thus, to maintain positive self-concepts (Hogg and Reid, 2006), people determine whether to continue group relations or leave a group based on the outcome of group assessments. Consequently, whether this assessment indicated that people could acquire collective and personal self-esteem from groups was critical for establishing identification and maintaining group relationships (Luhtanen and Crocker, 1992). In other words, if member needs for self-affirmation and self-esteem are satisfied during brand community assessment, they remain relatively motivated to accept and maintain behavior in these communities. This distinguished between internal and external groups and fosters identification (Hogg and Terry, 2000). Therefore, the following hypothesis is proposed:

H2. PCBS significantly and positively influences CI.

2.4 The impact of BI on CI

Self-categorization theory derives SIT from the integrated view and characteristics from social categories in self-definition to explain how people adopt attributes and how they categorize themselves in certain social categories, and how they develop related intergroup relationships and group behavior based on self-concept development and group processes. SIT was a socio-psychoanalysis theory that described self-concepts, group processes, and the intergroup relationships (Hogg and Reid, 2006).

Most researchers contended that people attempted to categorize themselves in specific categories to attain social identification and this motivation to self-definition was based on self-esteem and self-enhancement and reducing self-uncertainty (Ashforth and Mael, 1989; Hogg and Terry, 2000; Stokburger-Sauer *et al.*, 2012). SIT provides a structure to elucidate group identification. Self-identification is derived from individual perceptions of social categories. Identification can be divided into self and social identification. According to self-identification, people place themselves in specific social categories to define themselves as independent individual and stress their individual uniqueness. Social identification relates to the social categories of self and others; people identify their similarities with others to determine whether they belong to the same category. Thus, social identification emphasized the uniqueness of “they” and “we” (Turner *et al.*, 1994).

In consumer behavior studies, BI and CI are both developed based on group identification. When consumers exhibited BI, they recognized themselves as belonging to a specific brand (Kuenzel and Halliday, 2008, 2010). CI occurred when consumers felt part of or experience a sense of belonging toward brand communities (Casaló *et al.*, 2010;

Fuller *et al.*, 2008). Scholars suggested that SIT should include BI and CI factors (Tuškej *et al.*, 2013). Compared with BI, CI stresses recognizing “us” in a virtual community as a type of group identification.

Scant research has explored the relationships between BI and CI. Certain studies verified that CI enhanced the brand involvement of community members, extended and fortified the connections between the brand and community members, thereby established the members’ identification (Bagozzi and Dholakia, 2006; Escalas and Bettman, 2003).

Brands form the foundations and core processes of brand communities, in which members establish CI. When consumers perceive their personal image similar to the image constructed by a brand, they use that brand to confirm the correctness and necessity of their existence to themselves and society, verifying that their attitudes, values, and behaviors. Thus, when consumers perceive high levels of similarity between them and the brand, they may feel close to that brand and develop positive self-assessments based on their relationship with the brand. Moreover, when participating in communities, consumers tend to identify with brand communities. When community members consider themselves as a member of the brand, they are inclined to search for other members who possess similar interests and share the common brand attributes. This forms a specific brand community, generating a sense of belonging. Therefore, the following hypothesis is proposed:

H3. BI significantly and positively influences CI.

2.5 BP

Passion is mainly based on the triangular theory of love proposed by Sternberg (1997). Passion was initially used to describe emotional relationships between people. Shimp and Madden (1988) suggested that similar to love between people, humans could develop love for commercial objects such as products or brands. Passion is one of the three main elements of love (Swimberghe *et al.*, 2014). Sternberg defined that passion was a driving force of love relationship which initiated a variety of phenomena such as romantic feeling, physical attraction, perfect lust relationship (Pichler and Hemetsberger, 2007; Sternberg, 1997; Swimberghe *et al.*, 2014). Passion might be the only emotion of one person to another person and it could be one of a variety of complex emotions of love (Fromm, 1956; Sternberg, 1997). People have warm feelings for another person which echoing to the eight type forms of love called “infatuated love” of the triangular theory of love proposed by Sternberg (1997). Passion is the only element of infatuated love. It was an essential aspect of love and was frequently discussed when discussing romantic relationships. Regarding interpersonal relationships, passion indicates the positive emotions and emotional intensity that a person feels toward another person, including attraction, romance, a sense of stimulation, thoughts toward another person, psychological excitement, and eagerness to unite (Baumeister and Bratslavsky, 1999). Extended to the relationship between consumers and brand, Fournier (1998) pointed out that passion was an important and decisive factor affecting consumer-brand relationship quality. BP stimulates consumers to desire and imagine possessing products and develop a passionate relationship with brands. Consequently, BP was a critical motivation, inducing consumers to love brands; this aspect fostered psychological attachments among consumers (Shimp and Madden, 1988; Thomas *et al.*, 2005), serving as the foundation of BP (Rubin, 1970; Thomas *et al.*, 2005). When consumer is interested in a particular brand, his/her emotional relationship with this brand is more profound, even produces

missing or lost emotions when he/she does not use this brand (Albert *et al.*, 2013). Swimberghe *et al.* (2014) used a two-dimensional approach to study BP and divided BP into two different types: harmonious passion and obsessive passion. Harmonious passion is defined as the individual pursues or uses a brand and does not feel being forced or subject to external pressure from social or others. Individual pursues brand due to intrinsic motivation to maintain the relationship between brand and him/her. This kind person treated brand as a part of his/her life and harmonious coexistence with other parts of the life (Curran *et al.*, 2015). Obsessive passion is defined as consumers seeking to pursue, purchase, and use a brand. Obsessive passion came from inter- and intra-personal pressure, and because consumers simply could not control their desires to purchase without any reason sometimes (Curran *et al.*, 2015).

2.6 *The impact of identification on BP*

Regarding the relationships between identification and BP, Kressman *et al.* (2006) addressed BP or love, arguing that self-congruity influenced the quality of brand relationships. Notably, self-congruity is a critical prerequisite of BI. Scholars suggested that the definitions of self-congruity and BI were similar. Albert *et al.* (2013) proved that BI fostered BP, and when consumers used brands to extend their self-definition, they generated positive emotions toward brands, developing BP. The self-identity consciousness to brand generated from consumer would help to build up a sense of passion for the brand (Batra *et al.*, 2012). Hsu *et al.* (2015) proposed that BI had significant and positive effect on BP of a community fans. Thus, when consumers use brands to define themselves and satisfy self-related needs, they are prone to develop affection and enthusiasm toward these brands. Therefore, the following hypothesis is proposed:

H4. BI significantly and positively influences BP.

Keh and Xie (2009) indicated that identification would make consumers think they sharing the same kind of identification with the organization or having a similar value system to attract consumers to maintain the relationship. In the same way, it is the same case in the brand community. Community members possessed certain degree of BP when they had higher CI (Chih *et al.*, 2014). In addition, brand users would strengthen their brand emotions when they identified themselves the existence of community sense with others in psychology (Carlson *et al.*, 2008). It indicated that the intimate relationship between brand community members would increase by the rise of CI (McAlexander *et al.*, 2002). Moreover, BP can be produced when CI results from interactions within virtual communities, extending consumer affection for tangible brands. Consequently, the following hypothesis is proposed:

H5. CI significantly and positively influences BP.

2.7 *CCB*

The concept CCB is derived from organizational citizenship behavior, suggesting that members of an organization perform certain behaviors that exceed their roles to facilitate organizational effectiveness. Huang and You (2011) divided organizational citizenship behaviors into individual- and organization-oriented behaviors. Individual-oriented citizenship behaviors are performed based on the interests of a particular individual, indirectly contributing to the organization. Organization-oriented citizenship behaviors are performed to provide direct feedback to an organization. Organizational members may exhibit various citizenship behaviors based on differing commitment relationships.

Extending consumer context, CCB referred to unconditional behaviors performed by consumers to benefit brands or firms (Huang and You, 2011; Yi and Gong, 2008). Consumers directly participated in citizenship activities organized by enterprises, including word of mouth (Albert *et al.*, 2013; Tuškej *et al.*, 2013), enterprise activities, advocacy, facilitating improvement (Bove *et al.*, 2009), and sharing their belief in the brand (Vallaster and Lindgreen, 2013). Researches have applied CCB to various consumer behavior studies. Shen and Khalifa (2008) noted that online community design was regarded as the focus of member participation (Shen and Khalifa, 2008). Members frequently recommend their communities to relatives and friends (Casaló *et al.*, 2013). Koh and Kim (2004) suggested that the activities among virtual communities yielded several results, namely community cohesion, member loyalty to the community, and positive CCBs.

2.8 The impact of BP on CCB

BP facilitates understanding the consumer behavior and willingness to interact with brands in a value co-creation environment. BP reflects the extent to which consumers are engaged with the brands they love. In consumption-based environments, BP indicates that consumers develop affection and positive attitudes toward brands, forming affective connections, and exhibiting related brand behaviors that reflect these feelings. From a psychological perspective, Albert *et al.* (2013) showed that consumers' BP should reflect the attraction felt toward brands and extent to which these brands were idolized. When community members are willing to engage in collective community activities, support, and interact with other members, members may become brand disseminators. That is, customer may become valuable spokespersons for own brands (Fullerton, 2005; Harrison-Walker, 2001) and to spread the personal use experience of the brand (Matzler *et al.*, 2007). Therefore, the following hypothesis is proposed:

H6. BP significantly and positively influences CCB.

3. Methodology

3.1 Sample and data collection

In the increase of competitive environment, one of the most powerful competitive industries is information technology and communications industry. How to successfully create and maintain a strong brand is one of the most important competitive strategies for brand manufacturer. Apple company is one of the best paradigms for brand strategy with a unique brand positioning for a company and its products in the global marketplace (Danciu, 2010). Apple BI has integrity and strong character. The enthusiasts of Apple have clear brand knowledge. There is high degree of linkages between Apple consumers and Apple (Hsu *et al.*, 2015). In addition, Apple possesses innovation, creativity, and reputation. Apple aimed to design products for think different consumers, which persuaded customers to become fans of their products (Danciu, 2010). They were the reasons for Taiwanese who owned Apple products being the research participants in this study. The population of this research was members of Apple Facebook fan pages and visited Apple Facebook fan pages for at least one year. This study conducted online survey from March 1, 2013 to May 20, 2013 and collected 450 samples. However, this study assembled 323 valid samples and the response rate was 78.88 percent. This study conducted the χ^2 goodness-of-fit test for

gender ratio between the subject of this study and the population of Taiwan Facebook users. The result of χ^2 goodness-of-fit test showed that the gender ratio of the study sample was similar to Taiwan Facebook users with the degree of freedom one (χ^2 value of 0.025, p -value of 0.747).

Of the respondents, the percentage of male and female was 50.2 and 49.80 percent, respectively. The percentage of age from 21 to 30 years old was majority (46.70 percent) and followed by 31 to 40 years old (28.20 percent). The educational background with university or college degree was 69.70 percent. The area of residence was mostly in the northern region in Taiwan (70.6 percent). The percentage of less than monthly disposable income NTD 30,000 was the majority (70.30 percent). Most of the respondents worked in the services industry (50.80 percent). The percentage of using Facebook time from one year to three years was 67.50 percent. Facebook daily contact time was about two to four hours at most (47.40 percent).

3.2 Measures

This study adopted multi-items scales drawn from previous studies to measure all of the measurement items in the proposed model. The scales for PCBS and BI were from Zhou *et al.* (2012). The scales for CI were developed from Qu and Lee (2011). The scales for BP were developed from Albert *et al.* (2013), while CCB was developed from Bartikowski and Walsh (2011). The Appendix showed the items used to measure these constructs. All scales were measured on a seven-point Likert scale (1 = "strongly disagree"; 7 = "strongly agree").

3.3 Common method variance (CMV)

This study adopted two steps to deal with the CMV problem. First, in part of prevention, this study designed anonymous questionnaire, hidden research purposes and constructs, randomly arranged constructs in the questionnaire to prevent respondents consistently replying the measurement items. Second, in the post-detection part of this study, this study adopted Harman's single-factor analysis and performed the exploratory factor analysis (EFA) for all the measurement items. The result of EFA extracted five factors and the first factor explained 41.684 percent of the variance, which was less than 50 percent. In addition, this study adopted single-factor model (one factor confirmatory factor analysis) for 23 measurement items of five constructs of this study (Harman, 1967; Podsakoff and Organ, 1986). The results indicated that not all factor loadings were all significant (larger than 0.5 or more). Besides, the model fit of single-factor model ($\chi^2/df = 12.801$, goodness-of-fit index (GFI) = 0.391, adjusted goodness-of-fit index (AGFI) = 0.269, comparative fit index (CFI) = 0.515, and root mean square error of approximation (RMSEA) = 0.191) were worse than the model fit of proposed model ($\chi^2/df = 1.685$, GFI = 0.940, AGFI = 0.920, CFI = 0.981, and RMSEA = 0.039). Therefore, there is no CMV problem in this study.

4. Data analysis and results

The proposed model was confirmed using structural equation modeling. This study employed the two-stage approach by Anderson and Gerbing (1988) to test convergent validity and discriminant validity of the measurement model. Then, this study verified the strength and direction of the proposed relationships among research constructs by structural model. In the mediation test section, using Sobel test and bootstrapping method to test the mediating effect of dual-identification and BP.

4.1 Measurement model

According to the evaluation criteria, Anderson and Gerbing (1988) suggested convergent validity analysis as well as Bagozzi and Yi (1988) proposed confirmatory factor analysis for the measurement model. Gefen *et al.* (2000) recommended that the model fit index to assess data. The measurement model showed adequate fit: $\chi^2/df = 2.254$, GFI = 0.898, AGFI = 0.875, CFI = 0.955, and RMSEA = 0.064. Overall, this measurement model was acceptable. Table I showed that the composite reliability and average variance extracted, based on the criteria of Gaski and Nevin (1985), met the criteria for convergent validity, indicating good convergent validity. Evidence of discriminant validity exists when the square root of the average of variance extracted for each construct exceeds the coefficients correlation of this particular construct with other constructs (Fornell and Larcker, 1981). As presented on Table II, each of the correlations was significant between constructs, suitable for structural model.

4.2 Model fit and hypotheses tests

The model fit for the structural model provided evidence of a good model fit: $\chi^2/df = 1.685$, GFI = 0.940, AGFI = 0.920, NFI = 0.946, CFI = 0.981, IFI = 0.981,

Constructs	MLE estimates		Squared multiple correlation (SMC)	Composite reliability (CR)	Average of variance extracted (AVE)
	Factor loading (λ_x/λ_y)	Measurement error (δ/ϵ)			
Perceived Community-Brand Similarity				0.873	0.633
PCBS1	0.753***	0.413	0.587		
PCBS2	0.755***	0.191	0.809		
PCBS3	0.899***	0.430	0.570		
PCBS4	0.766***	0.367	0.433		
Brand Identification				0.889	0.618
BI1	0.637***	0.594	0.406		
BI2	0.830***	0.312	0.688		
BI3	0.824***	0.321	0.679		
BI4	0.796***	0.367	0.633		
BI5	0.828***	0.314	0.686		
Community Identification				0.860	0.606
CI1	0.764***	0.417	0.583		
CI2	0.790***	0.375	0.625		
CI3	0.799***	0.361	0.639		
CI4	0.759***	0.424	0.576		
Brand Passion				0.792	0.656
BPP	0.849***	0.280	0.720		
BPI	0.769***	0.408	0.592		
Community Citizenship Behavior				0.854	0.661
CCB1	0.847***	0.283	0.717		
CCB2	0.792***	0.373	0.627		
CCB3	0.799***	0.362	0.638		
Fit statistics ($N = 323$)					

$\chi^2 = 437.255$, $df = 194$, GFI = 0.898, AGFI = 0.875, CFI = 0.955, RMSEA = 0.064

Notes: Brand passion is a second-order factor. *** All factor loadings are significant at the $p < 0.001$ level

Table I.
Analysis of
measurement model

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RMSEA = 0.039. Overall, the structural model showed adequate fit. The hypotheses results showed that PCBS significantly and positively influenced BI ($\gamma_{11} = 0.735$, $p < 0.001$). PCBS significantly and positively influenced CI ($\gamma_{21} = 0.179$, $p < 0.05$). BI significantly and positively influenced CI ($\beta_{21} = 0.486$, $p < 0.001$). BI significantly and positively influenced BP ($\beta_{31} = 0.234$, $p < 0.001$). CI significantly and positively influenced BP ($\beta_{32} = 0.294$, $p < 0.001$). BP significantly and positively influenced CCB ($\beta_{43} = 0.598$, $p < 0.001$). The results supported hypotheses. Table III showed the hypotheses test results.

1762

4.3 Post analysis: tests of mediation effects

Test results in Table IV showing the Sobel tests were all significant and greater than 1.96, and the 95 percent confidence intervals of 2,000 simulations of bootstrapping analysis did not contain zero, indicated that the BI and CI were the mediators between PCBS and BP; the BP was the mediator between the dual-identification and CCB (Efron and Tibshirani, 1993). Furthermore, the regression analysis of Table V showed that the BI and CI partially mediated PCBS and BP (PCBS-BI-BP path and PCBS-CI-BP path), the BI partially mediated PCBS and CI (PCBS-BI-CI path), the CI partially mediated BI and BP (BI-CI-BP path) and BP partially mediated CI and CCB (CI-BP-CCB path). Only the BP was the complete mediator between BI and CCB (Baron and Kenny, 1986).

Table II.

Correlation matrix for measurement scales

Constructs	PCBS	BI	CI	BP	CCB
PCBS	0.796				
BI	0.662	0.786			
CI	0.469	0.546	0.778		
BP	0.271	0.287	0.321	0.810	
CCB	0.247	0.213	0.325	0.524	0.813

Notes: Diagonal elements are the square roots of the average variance extracted. PCBS, perceived community-brand similarity; BI, brand identification; CI, community identification; BP, brand passion; CCB, community citizenship behavior

Table III.

Results of proposed model

Hypothesis relationships	Path coefficients
γ_{11} Perceived community-brand similarity → Brand identification	0.735***
γ_{21} Perceived community-brand similarity → Community identification	0.179*
β_{21} Brand identification → Community identification	0.486***
β_{31} Brand identification → Brand passion	0.234***
β_{32} Community identification → Brand passion	0.294***
β_{43} Brand passion → Community citizenship behavior	0.598***
<i>Fit index</i>	
χ^2 (df)	192.702 (129)
p-Value	0.000
GFI	0.940
AGFI	0.920
CFI	0.981
RMSEA	0.039

Notes: *** $p < 0.001$; * $p < 0.05$

5. Discussion

5.1 Research and managerial implications

This study based on the SIT as a theoretical research model and extended the external concept of similarity with exploring the mediating process to develop CCB model for community members. This study demonstrated SIT being the theoretical foundation for investigating community members' CCB. It also verified that BI, CI, and BP were crucial mediators. Specifically, BP was a complete mediator between BI and CCB.

The results indicated that when the level of PCBS was high, community members and brand exhibited similar characteristics. In addition, brand beliefs, values, and thoughts enhance the cohesion of a brand community, strengthening the sense of belonging members feel toward the brand. Due to the similarity of the individual and the brand characteristics, people and brand may form an approximation interpersonal intimacy (Fournier, 1998). They will show the loyalty to a brand, when they experience a sense of pleasure. In addition, individuals will also develop friendship relationships which similar between consumers and the brand (Mohammadian and Karimpour, 2014). Therefore, fan page managers shape the relationships among community members to highlight the consistency between the brand and members, who establish BI. When members perceive that brand share common characteristics (e.g. ideas, values, attitudes, lifestyles, and social conditions), they feel they belong to this brand community and develop CI.

Concerning the relationships between BI and CI, this study indicated that the BI of community members enhanced their CI. Therefore, identification should be divided into

Table IV.
Sobel test and bootstrapping analysis for the mediating effects of brand identification, community identification, and brand passion

IV	M	DV	Sobel test	Bootstrapping 95% confidence intervals			
				Percentile CI		Bias CI	
				Lower	Upper	Lower	Upper
PCBS	BI	BP	4.244***	0.0903	0.5228	0.0909	0.5238
PCBS	BI	CI	6.474***	0.1698	0.3279	0.1685	0.3270
PCBS	CI	BP	2.540***	0.1466	0.4255	0.1497	0.4273
BI	CI	BP	2.531***	0.1444	0.4219	0.1444	0.4226
BI	BP	CCB	1.776***	0.0776	0.1786	0.0794	0.1802
CI	BP	CCB	1.321***	0.1060	0.2350	0.1071	0.2381

Notes: IV, independent variable; M, mediating variable; DV, dependent variable; PCBS, perceived community-brand similarity; BI, brand identification; CI, community identification; BP, brand passion; CCB, community citizenship behavior. *** $p < 0.001$

Table V.
Regression analysis for the mediating effects of brand identification, community identification and brand passion

IV	M	DV	IV→DV		IV→M		IV+M→DV			
			β	SE	β	SE	IV	SE	M	SE
PCBS	BI	BP	0.644***	0.128	0.736***	0.046	0.342*	0.169	0.411**	0.152
PCBS	BI	CI	0.413***	0.043	0.736***	0.046	0.333*	0.049	0.168**	0.054
PCBS	CI	BP	0.644***	0.128	0.413***	0.043	0.673**	0.160	0.366**	0.141
BI	CI	BP	0.615***	0.115	0.433***	0.037	0.634***	0.169	0.340*	0.134
BI	BP	CCB	0.184***	0.047	0.615***	0.115	0.059	0.043	0.204***	0.020
CI	BP	CCB	0.355***	0.058	0.868***	0.143	0.191***	0.054	0.189***	0.020

Notes: IV, independent variable; M, mediating variable; DV, dependent variable; PCBS, perceived community-brand similarity; BI, brand identification; CI, community identification; BP, brand passion; CCB, community citizenship behavior. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

BI and CI. This finding was consistent with previous studies (Bagozzi and Dholakia, 2006; Escalas and Bettman, 2003; Zhou *et al.*, 2012).

In practice, brand-oriented companies should leverage new media. Barwise and Meehan (2010) have established long-term cooperation with companies in numerous fields to develop relevant marketing strategies, particularly regarding social media marketing. They concluded that companies successfully leverage social networks using the numerous opportunities provided by social media, focussing on consumer BI.

Brand community members develop CI with brand fan pages when they interact with other members. This interaction influences community members to experience positive feelings toward the brand, prompting them to share their BP with other members; consequently, their BP increases. Businesses should maintain and periodically upgrade their brand fan pages to ensure the design remains refreshing and attractive when introducing new products or campaigns. After members develop BI, the page may reinforce their CI.

Another critical finding was that BI and CI was a prerequisite for brand community members to maintain their BP. BI and CI generated strong BP. Consequently, businesses must understand how to facilitate interaction and participation among brand communities to expedite developing BP among community members. In addition to provide a space for regularly introducing new products or campaigns by using community platforms, brand fan pages can encourage community members to invite friends participating in relevant sales promotions or prize activities. Increasingly and actively exposing to the public, this allows community platforms to encourage community members to identify with the platform and establish a sense of involvement.

This study verified that CI and BP were crucial mediators. Concerning the mediating effect of BP, the findings indicated that consumers developed brand enthusiasm and obsession only after establishing CI. The precondition of CI generated BP. Forming CCB necessitates enhances the BP of community members. This finding corresponds to previous studies. For example, Fuller *et al.* (2008) noted that BP formed the foundation of brand communities, because only passionate brand-lovers were motivated to discuss and share brand information. In addition, brands often hope that community members can actively assist the organization without asking for rewards by disseminating positive brand information, maintaining positive brand images, offering product improvement suggestions, and even tolerating brand failures. The findings indicated that BP prompted community members to build long-term, affection-based relationships with brands. Based on their emotional connections or positive attitudes toward brands, members are willing to enhance and protect their favored brands to maintain their connection.

Obviously, most of the online community members were content consumers or lurkers just passively observing the information on the site in the past. On the contrary, content creators will post comments and share social values in the social community platform under the context of exchange process. Content creators show a high degree of involvement especially in community participation comparing with content consumers. This active participation could increase customer loyalty (Kim and Ko, 2012; Turri *et al.*, 2013).

From a long-term perspective for maintaining brand fans, the proposed theoretical framework and empirical results should help business managers understand consumers, elucidating how to interact with fan page members to foster loyal fans. The power of fans on the internet is particularly far-reaching and extensive. Business managers must endeavor to manage brand fan pages and leverage public influence from their communities. This facilitates both BI among community members and identification with brand communities. In addition, when business managers explore methods allowing

community members to contribute to communities and brand firms, they should attempt to foster BP, which is a reliable factor of success. BP stimulates community members to perform behaviors that benefit the enterprises and its brands, enabling business managers to decrease the amount of the resources and funds to establish and maintain brands.

Besides, future social community managers should encourage community members expressing their thoughts, ideas, and information to strengthen the interactions and actively participate in community activities. In the practicality, social community managers can draw attractive topics through simple lucrative way to promote community members generating brand resonance so that these topics transform into the true interactive discussion. It increases the stickiness of brand fan page for community members and the willingness of generating value co-creation between member of fans and community managers.

5.2 Research contributions

There are two major research contributions in this study. First, for the theoretical part of the development of SIT, this study proposed a model to explain the development of a course of community interaction model. However, past researches used to explore a single perspective of identification in the community study (e.g. Yu *et al.*, 2010; Zhou, 2011). These previous studies ignored the simultaneous presence of BI and CI with different aspects of community. Some of previous studies considered only a single perspective of BI (e.g. Becerra and Badrinarayanan, 2013; Kuenzel and Halliday, 2010; Peng *et al.*, 2014; Tuškej *et al.*, 2013) or CI (Algesheimer *et al.*, 2005; Chang *et al.*, 2013; Huang, 2012). Even recent studies considered the phenomenon of the existence of dual-identification of community (e.g. Kim *et al.*, 2012). There was no study to investigate the context of the relationship between dual-identification. This study proposed that identification should be divided into CI and BI and there existed relationships between these two identifications.

Second, for the extension of exogenous constructs theory, in recent years, social psychological researchers interested in the factors of similarity as the effect of relationships quality and their behavioral outcomes, such as partner's preferences, emotional commitment, stability of relationships, and the behavior of maintaining relationships (Aron *et al.*, 2006; Arthur *et al.*, 2006; Byrne, 1997; Gaunt, 2006). In the issues of community research, previous studies began to take into consideration the interactive model between consumers and the brand. However, these previous studies all ignored that similarity could exist on the relationship between consumers and the brand community (e.g. Casaló *et al.*, 2013; Peng *et al.*, 2014; Zhang and Bloemer, 2008). This study advocated that this phenomenon existed in the issues of internet community and compensated the gap in the previous studies.

5.3 Limitations and future research

Future research is encouraged to investigate other identification variables. This study did not explore other exogenous variables that influence identification. Subsequent studies can examine these variables. Researchers have indicated that values are factors generating CI (Dholakia *et al.*, 2004), such as value similarity (Siegrist *et al.*, 2000) and perceived community benefits. Specifically, perceived values include social/emotional, utilitarian, and economic values (Li *et al.*, 2012); perceived community benefits encompass purposive and self-discovery value, maintaining interpersonal interconnectivity, social enhancement, and entertainment value (Dholakia *et al.*, 2004). Finally, future studies should incorporate the brand experience variable (Dholakia *et al.*, 2004) to avoid bias resulting from other factors.

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Appendix 1. Scale items

Construct/item

Perceived Community-Brand Similarity (Zhou *et al.*, 2012)

PCBS1. There is similarity between personality of typical members from Apple Fan Page and personality of Apple.

PCBS2. There is similarity between values of Apple Fan Page and values of Apple.

PCBS3. There is similarity between style of Apple Fan Page and style of Apple.

PCBS4. There is similarity between feeling to Apple Fan Page and feeling to Apple.

Brand Identification (Zhou *et al.*, 2012)

BI1. I am very interested in what others think about Apple.

BI2. Then someone praises Apple it feels like a personal compliment.

BI3. Apple brand's successes are my successes.

BI4. When I talk about Apple, I usually say "we" rather than they.

BI5. When someone criticizes Apple, it feels like a personal insult.

Community Identification (Qu and Lee, 2011)

BCI1. I feel strong ties to other members.

BCI2. I find it easy to form a bond with other members.

BCI3. I feel a sense of community with other members.

BCI4. A strong feeling of camaraderie exists between me and other members.

Brand Passion (Albert *et al.*, 2013)

Pleasure

BPP1. By buying Apple, I take pleasure.

BPP2. Discovering new products from Apple is a pure pleasure.

IMDS
115,9

BPP3. I take a real pleasure in using Apple.

BPP4. I am always happy to use Apple.

Idealize

BPI1. There is something almost “magical” about my relationship with Apple.

BPI2. There is nothing more important to me than my relationship with Apple.

BPI3. I idealize Apple.

Community Citizenship Behavior (Bartikowski and Walsh, 2011)

Based on your past experience with Apple, how likely are you to [...]?

CCB1. [...] provide information when surveyed by Apple.

CCB2. [...] provide helpful feedback to customer service.

CCB3. [...] inform the firm about the service provided by this employee.

1772

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