



The Psychological Mechanism of Brand Co-creation Engagement

Sara H. Hsieh ^{a,*} & Aihwa Chang ^b

^a Department of Business Administration, Tunghai University, Taiwan, ROC

^b Department of Business Administration, National Chengchi University, Taiwan, ROC

Abstract

Co-creation for brand innovation is an intriguing and rapidly growing trend in the current competitive market. Past research emphasizes the economic gains of consumer co-creation, with limited research focusing on the psychological effects engendered in the process of consumer brand co-creation. Drawing from self-determination theory and implicit self-esteem theory, the present research proposes an integrative framework for synthesizing the perceived psychological benefits and distinctive motivations in the brand co-creation process. The results indicated that brand self-connection and three perceived benefits of brand co-creation tasks (autonomy, competence, and relatedness) facilitate consumer motivations to participate in brand co-creation campaigns. These motivations facilitate the establishment of brand co-creation engagement, which in turn leads to strengthened brand relationship behavior. This research exemplifies that a well designed brand co-creation contest is a potent means which can not only enhance consumer engagement with the co-creation contest, but also turn engaged consumers into intangible assets for brand innovation. © 2015 Direct Marketing Educational Foundation, Inc., dba Marketing EDGE.

Keywords: Brand co-creation; Engagement; Motivation; Brand relationship; Brand contest

Introduction

Co-creation for brand innovation (referred to hereafter as brand co-creation) is an intriguing and rapidly growing trend in the current competitive market where marketers integrate firm competencies with consumer participation to enhance the value of brands, products, services, and experiences (Füller 2010; Nambisan and Nambisan 2008). In addition to brand co-creation, other types of consumer collaboration, such as crowdsourcing (Howe 2006) and open innovation (Chesbrough, Vanhaverbeke, and West 2006) are experiencing massive growth. This trend has emerged because more marketers recognize consumers as coproducers of products and services and the prevalence of internet technology has popularized co-creation activities, thus more and more corporates believe that co-creation can increase brand competitiveness (Bendapudi and Leone 2003). For

instance, by adopting a connect-and-develop approach, Procter & Gamble has increased the R&D productivity by nearly 60% and 45% of the new initiatives in their new product development has incorporated external contributions (Huston and Sakkab 2006). Consumers have now become a valuable source of innovation (Ernst et al. 2010).

Aside from enhancing a company's innovative ability (Sawhney, Verona, and Prandelli 2005), co-creation is also a viable method to foster active brand relationships (Füller 2010). This effect has considerable implications because consumer-brand relationship development has long been an important topic among practitioners and researchers (Batra, Ahuvia, and Bagozzi 2012; Fournier 1998; Park et al. 2010; Thomson, MacInnis, and Park 2005). Past studies on psychological states of consumer brand relationships have focused on individual consumer's experience toward a brand (Park et al. 2010), such as brand attachment (Park and MacInnis 2006) and brand love (Ahuvia 2005). Only limited research (e.g. Brodie et al. 2013) has investigated the psychological states of brand relationships under today's interactive platforms, such as co-creation, which enables

* Corresponding author at: No. 1727, Sec. 4, Taiwan Boulevard, Xitun District, Taichung 40704, Taiwan, ROC.

E-mail address: sarahsieh1@gmail.com (S.H. Hsieh).

consumer brand interaction at individual and group levels through the participation of co-creation tasks. In order to encapsulate the dynamics that illustrate this interactive brand relationship, the consumer engagement concept has emerged to characterize the psychological state that occurs via an interactive and co-creative experience with brand (Brodie et al. 2013). It is acknowledged that consumer engagement is the heart of interactive consumer–brand relationships because it is perceived as a vehicle for fostering consumer relationships, which contributes substantially to consumer loyalty (Appelbaum 2001).

Although it is recognized that co-creation/interactive experience can produce engagement (Lusch and Vargo 2010), however, there are many instances of brand co-creation which show that the interactive experiences of co-creation tasks do not always produce consumer engagement and foster brand relationships (Gebauer, Füller and Pezzeri 2013). Hence, the mixed findings require clearer understanding. Research in co-creation has thus far devoted limited attention to investigate the fundamentals of task design in brand co-creation, particular with respect to how task design can enhance consumer engagement. The underlying psychological mechanism of co-creation, which encapsulates how task design factors in the co-creation process facilitate consumer engagement in brand co-creation (referred to hereafter as brand co-creation engagement for short), remains unknown, thus, representing an important area of brand relationship research in co-creation. While many studies have examined co-creation, these studies have focused on the managerial effects of co-creation, such as economic gain (Ostrom et al. 2010; Zhao and Calantone 2003), with little attention on the brand relationships building during the co-creation process.

Prior research shows several key topics in consumer co-creation concerning the new product development process. The topics include: (1) studies that focused on differing motivators that drove consumers to participate in co-creation (Nambisan and Baron 2009); (2) studies that highlight the managerial effects that aim at improving efficiency to stimulate the economic gains (Ostrom et al. 2010; Zhao and Calantone 2003); and (3) studies that are interested in the outcome of co-creation such as commercial value and psychological ownership that increase purchase demand (Fang, Palmatier, and Evans, 2008; Fuchs, Prandelli, and Schreier 2010). The objective of our research is to propose and empirically test a theoretical model that highlights (1) how key determinants of brand co-creation experiences (i.e., individual brand-connection and task related factors in the co-creation process) foster consumer engagement in co-creation tasks (“brand co-creation engagement”), and (2) whether brand co-creation further positively contributes to a strengthened brand relationship. Therefore the present study mostly corresponds to the third group of research. However, in contrast to previous studies which primarily focused on selected aspects such as consumer motivators or firm related factors in the co-creation process, our research takes a holistic approach to provide a framework that integrates the influences of individual–brand connection and task related factors in the co-creation process, to examine their combined effects on the creation of a strengthened brand relationship.

To address the aforementioned research questions, present research draws from self-determination theory (Deci and Ryan

1980) to suggest that task characteristics of co-creation may provide satisfaction to innate psychological needs and thus strengthen participative motivation in the co-creation process, which subsequently fosters consumer engagement in brand co-creation. Furthermore, self-implicit theory (Greenwald and Banaji 1995) is also leveraged to shed insight on the establishment of strengthened brand relationship through the influence of brand connection in co-creation. To our knowledge, no prior studies have proposed an integrative framework which incorporates the key drivers of brand relationship and co-creation task design in brand co-creation.

The present study thereby provides an important contribution and augments our understanding on brand co-creation. First, it provides a fresh perspective on consumer brand co-creation by proposing a model that illustrates the synthesized effect of consumer–brand connection and brand task characteristics working in the process of the brand co-creation experience to create brand co-creation engagement, which further affects consequent brand responses. This study amplifies the understanding of the brand co-creation process and complements prior research that has emphasized mostly on specific facets of the process. Second, past studies have mainly focused on the economic gains of consumer–brand co-creation and few studies have examined the influence of brand co-creation on consumer–brand relationships. This study extends the literature by revealing the crucial psychological causes of brand co-creation engagement. Third, this study advances the understanding of the co-creation effects, demonstrating that the individual and team factors in co-creation work together to affect the brand co-creation experience.

The remainder of this study is organized as follows. The first section is a literature review of co-creation and brand co-creation engagement studies. In the second section, we describe the development of a conceptual framework to determine the underlying psychological mechanism of brand co-creation and related brand behavior. The research approach is detailed in the third section. Finally, we present the findings of the data analysis and conclude with a discussion of the results and their managerial implications.

Theoretical Background and Research Hypotheses

Co-creation

Prahalad and Ramaswamy (2000, 2004) postulated that the market has become a place where active customers request the opportunity to be involved in the value-creation process. Furnished with new tools and displeased with market choices, consumers desire to interact with firms and co-create value. Co-creation marks the shifting landscape of consumer–company interactions and it redefines the meaning of value and the process of value creation. Vargo and Lusch (2004) defined co-creation as the dynamic interaction and involvement of customers with their suppliers in every phase of the value-creation process. In service-dominated businesses, customers may actively participate in dialog and interact with the firms during product design, creation, distribution, and consumption. The essential proposition of this reasoning is that a customer is always a co-creator of value,

and value is entrenched in the process of co-creation between a customer and a firm (Payne et al. 2009; Vargo and Lusch 2004).

In general, there are two types of co-creation: co-creation initiated by consumers, such as consumer participation in knowledge co-creation in blogs (Seraj 2012) and firm-sponsored co-creation, where co-creation is conducted on behalf of a firm. This research focuses on firm-sponsored co-creation, which is usually established to enhance firm innovation. A prevailing method for encouraging co-creation is to establish innovation contests that invite consumers to team up and generate new product ideas (Füller 2010).

Examples of product co-design conducted on open-source platforms include Nike co-creating basketball shoes by using customer-contributed designs (Füller, Jawecki, and Mühlbacher 2007) and Adidas leveraging online communities to collaborate in product co-design (Piller et al. 2005). Prior research shows several key topics in consumer co-creation concerning the new product development process: consumer-level motivators, firm-level factors and outcomes of co-creation (Hoyer et al. 2010).

Past studies on consumer-level motivators have focused on differing motivators and psychological reasons that drive consumers to participate in co-creation such as increased status, social esteem, self-efficacy (Nambisan and Baron 2009), recognition (Hennig-Thurau 2004), altruism (Füller, Hutter, and Fries 2012), and delayed rewards such as future job offers (Lerner and Tirole 2002). However, these studies focus primarily on specific motivational aspects of the brand co-creation; they do not examine the fundamental benefits that co-creation tasks provide, which can facilitate motivations in the co-creation process.

Likewise, the research themes on firm-level factors emphasize the managerial effects that aim at improving efficiency to stimulate the economic gains, such as offering user toolkits (Piller and Walcher 2006; von Hippel and Katz 2002), award structure (Terwiesch and Xu 2008), inconsistent consensus on the intellectual property (Hatch and Schultz 2010), feasibility of ideas (Magnusson, Matthing, and Kristensson 2003; Poetz and Schreier 2012). While firms may be interested in firm stimulators or inhibitions that influence economic gains, the psychological benefits that individuals derive from co-creation tasks, which may play an important role in influencing the quality of the innovative ideas, are largely ignored in past studies.

The literature on the outcomes of co-creation has mainly focused on the advantages and effectiveness that are brought by a closer fit of co-created product such as increased commercial value (Fang, Palmatier and Evans 2008) and psychological ownership, which may increase purchase demand (Bendapudi and Leone 2003; Fuchs, Prandelli, and Schreier 2010). However, these studies seldom examined brand relationships as an outcome of co-creation. Brand relationship, despite its importance, has seldom been discussed in the contexts of co-creation, innovation and new product development. Our research aims to bridge this important research gap in co-creation outcome.

Brand Co-creation Engagement

Deriving its conceptual roots from fields including psychology and organizational behavior, the engagement concept has

been increasingly used in the marketing literature. According to Kahn (1990), personal engagement is an involvement of the self which binds the individual self to a work role. This study expands the definition of engagement by Schaufeli, Bakker, and Salanova (2006), to define brand co-creation engagement as a “persistent, positive affective-motivational state of fulfillment that is characterized by vigor, dedication, and absorption toward brand co-creation.” Vigor is characterized by high levels of energy to invest strength and persistency in one’s work. Dedication indicates feeling a sense of meaning and enthusiasm. Absorption is described as being fully concentrated and happily captivated in one’s work. The concept of engagement shares conceptual similarity between the flow experiences proposed by Csikszentmihalyi (1990). Csikszentmihalyi posits flow as “the state in which people are so involved in an activity that nothing else seems to matter” (1990, p. 4). Flow is characterized by the combination of a deep concentration, a sense of control, a loss of self-consciousness, and a transformation of time, and denotes “peak” experiences, which is distinctive from “engagement” and illustrates a more pervasive state of mind. Furthermore, though engagement shares some conceptual similarity to flow, engagement does not encompass the conception of control (Webster and Ho 1997). Additionally, engagement includes the concept of dedication, which illustrates a sense of meaning and enthusiasm, which also makes it distinctive from flow conceptually. Engagement extends beyond mere involvement, because it encompasses compelling experiences characterized by intensively and enthusiastically interactive experiences with a brand (Mollen and Wilson 2010). Previous studies have indicated that consumer engagement can be considered as a vehicle that builds and strengthens consumer relationships, because it represents the interactive perspective of the consumer brand relationship, which affects consumer loyalty (Brodie et al. 2013). Therefore, this study uses brand co-creation engagement to illustrate the psychological benefits derived from brand co-creation.

Theoretical Background: Self-determination Theory and Implicit Self-esteem Theory

Self-determination Theory

Self-determination theory (SDT) (Deci and Ryan 1980) emerged from organizational behavior literature and postulates that the satisfaction of three innate psychological needs—autonomy, competence, and relatedness—determines a person’s engagement in various activities. According to SDT, the satisfaction of the three basic needs provides the sustenance for motivation. Deci and Ryan (2000) contend that autonomous motivation has a stronger effect in facilitating engagement than controlled motivation. Behaviors that are driven by self-interest are motivated by intrinsic motivation, thereby demonstrating autonomous motivation (Deci and Ryan 2000). In contrast, extrinsic motivation belongs to controlled motivation as it requires an instrumentality between the activity and distinct values such as rewards, thus satisfaction is derived from the activity’s extrinsic values. Past studies in work situations indicate the satisfaction of these three basic psychological needs can strengthen intrinsic motivation and extrinsic motivation, which enhances performance

and work satisfaction (Meyer and Gagne' 2008). In line with the exemplification of SDT in work environment this research asserts that the theoretical implication of SDT is ideal to reveal the psychological drivers in the co-creation environment, where consumers participate as co-producers to provide innovative brand ideas for firms.

Implicit Self-esteem Theory

This study examines how brand co-creation experiences foster an important psychological outcome, brand co-creation engagement. The inherent psychological response that constitutes the establishment of brand co-creation engagement is drawn from implicit self-esteem theory (Greenwald and Banaji 1995). Implicit self-esteem is defined as a spontaneous, natural, and unconscious evaluation of the self that affects unprompted responses to self-relevant stimuli (Bosson, Swann, and Pennebaker 2000). Because people generally assess self-related stimuli more favorably than stimuli not associated to self, it is likely that positive self-evaluation is transferred to the object (Greenwald and Banaji 1995). Bosson, Swann, and Pennebaker (2000) in their study asserted that in circumstances that lead to the establishment of associations between an object and the self, such as self-design activities which entail physical handling of the product and psychological self-involvement, should lead to the formation of connections between the self and self-produced outcome. Given that most people possess unconscious favorable associations about themselves, this unconscious bias facilitates assimilation that builds new connections between the self and the object which he or she helps to create, thus leading to more positive evaluations of the object. Hence, for consumers involved in brand co-creation, it is likely that a shared sense of emotional ownership of the brand will be established, which facilitates engagement toward brand co-creation. Therefore drawing from SDT (Deci and Ryan 1980) and implicit self-esteem theory (Greenwald and Banaji 1995), we reviewed the literature pertinent to each model stage and derived associated hypotheses. Fig. 1 shows the structural relationships and hypotheses of the model.

Brand–Self Connection

Brands feature a wide range of distinct images that are suitable for individuals to identify with, thus individuals often use brands to express their self-concepts to others (Belk 1988). During this process, a connection between brands and consumer self-concepts is established and brands are incorporated into an individual's self-concept (Escalas and Bettman 2003; Escalas 2004). As a result, consumers establish a sense of unity with the brand and more favorable brand evaluation is created. This result can be explained by implicit self-esteem theory (Greenwald and Banaji 1995), which postulates unconscious evaluation of the self affects responses to self-relevant stimuli. Given that most people have a positive self-evaluation, the self-serving bias is likely to transfer to the object. Studies have indicated that when information is perceived as self-relevant, it draws intentional attention (Petty, Cacioppo, and Schumann 1983). Thus, consumers exhibiting strong brand–self connection

are likely to be attracted to that brand's activities and generate internally motivated behavior to participate.

When people are internally motivated to undertake an activity, they are engaged in that activity because they are interested in and enjoy the activity. Consumers participating in brand co-creation innovation can be driven by internal motivation, such as a sense of self-expression (Etgar 2008) and positive affect (Burroughs and Mick 2004), which can lead to brand co-creation engagement. Consumers who participate in co-creation innovation can be externally motivated by goal driven utility value, such as recognition or financial rewards.

Furthermore, when consumers become co-designers of a product, the possibility that they develop an emotional connection with a brand is enhanced (Demirbilek and Sener 2003). According to implicit self-esteem theory (Greenwald and Banaji 1995), unconscious favorable associations of the individuals causes unconscious bias, which facilitates assimilation in which new connections are formed between the self and an object, producing a more positive evaluation of the object. Therefore, consumers experiencing high brand–self connection with the brand that sponsors the co-creation task are likely to generate not only enhanced motivation to participate in brand co-creation, but also develop a sense of emotional ownership of the brand, thus fostering brand co-creation engagement (H1). Therefore,

H1. Consumer brand–self connection is positively associated with brand co-creation engagement.

Perceived Brand Co-creation Benefits

The characteristics of the brand co-creation task may provide psychological benefits to participants including opportunity to fulfill perceived autonomy, competence, and relatedness needs, which affect consumer motivation to participate in co-creation and the establishment of brand co-creation engagement experience.

Perceived Autonomy

Autonomy implies an inner endorsement of one's actions, or the sense that stems from oneself (Deci and Ryan 1987). When a person completes activities for the sake of the person's own interest or personal value, the level of perceived autonomy is high. Companies can facilitate perceived autonomy by respecting co-creation participants, avoiding excessive control, and supporting the interaction process. Autonomy is generally positively associated with intrinsic motivation, interest, creativity, cognitive flexibility, confidence, trust, and perseverance in behavioral change (Deci and Ryan 1987). According to SDT, tasks that satisfy a person's inherent psychological need for autonomy increase that person's level of engagement in that activity (Deci and Ryan 1980, 2000). Engagement indicates the emotional quality of an individual's active participation during a task, which includes both involvement and commitment as psychological states and also a sense of personal identity in role behavior (Kahn 1990). When the level of perceived autonomy is high for an individual, the individual is likely to be internally motivated, which facilitates the experience of interest, enjoyment and

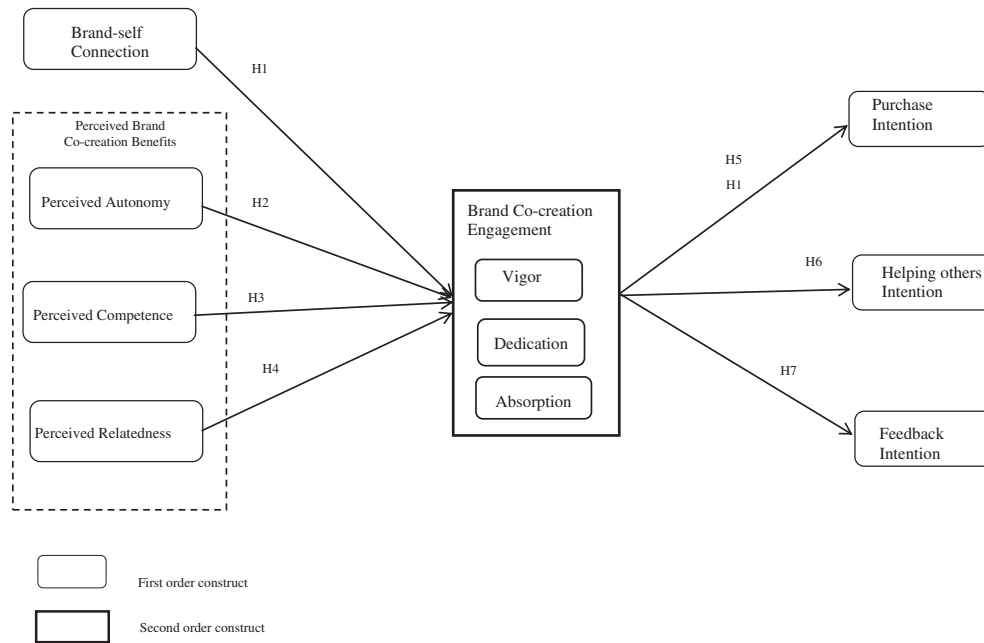


Fig. 1. Research framework.

engagement in the tasks. Therefore in situations where consumers participating in brand co-creation innovation experience the satisfaction of perceived autonomy, it is likely that this will facilitate the establishment of brand co-creation engagement. Hence, we hypothesized that brand co-creation activities that provide an experience of autonomy facilitate the establishment of brand co-creation engagement (H2). Therefore, Hypothesis H2 was proposed.

H2. Perceived autonomy generated from the brand co-creation task is positively associated with brand co-creation engagement.

Perceived Competence

White (1959) stated that the need to feel competent is the basic organismic propensity on which self-esteem and self-confidence are based. Perceived competence is the subjective aspect of actual competence. These feelings are crucial psychological rewards that provide constant motivation to behave competently. According to SDT, experiences that strengthen the sense of competence (such as obtaining new skills, facing challenges, or receiving positive feedback) enhance perceived competence, which enhances internal motivation (Deci and Ryan 1980, 2000). Fischer (1978) asserted that competence stems from the interaction between a person and his or her context. When the context and activities change, competence changes accordingly. Therefore, molding a context that encourages thoughts and actions associated with confidence in accomplishing a certain task may elicit perceived competence for that task. When consumers participate in co-creation tasks, they may provide ideas that satisfy needs not met by the existing market offerings (Bendapudi and Leone 2003). Thus, participating consumers are likely to experience feelings of competence and self-efficacy.

According to SDT, the need for competence can facilitate engagement in various activities (Deci and Ryan 1980, 2000). Therefore in situations where consumers participating in brand co-creation innovation experience the satisfaction of perceived competence, it is likely that this will facilitate the establishment of brand co-creation engagement, experiencing a feeling of vigor, dedication, and absorption toward brand co-creation. Hence, we hypothesized that brand co-creation activities that provide an experience of competence facilitate the establishment of brand co-creation engagement (H3). Therefore, Hypothesis H3 was proposed.

H3. Perceived competence generated from the brand co-creation task is positively associated with brand co-creation engagement.

Perceived Relatedness

Brand co-creation innovation involves interaction and collaboration among consumers, thus bringing the consideration of the third basic psychological need described in SDT: the need for relatedness. Relatedness is the need to feel connected; specifically, it is the need to belong to a group, to be able to love, and to be loved (Baumeister and Leary 1995). The need for relatedness is satisfied when people experience a sense of communion and develop close and intimate relationships with others (Deci and Ryan 2000). The assumption that people are naturally predisposed to integrating themselves in a social environment and to benefitting from being cared for is equally emphasized in developmental approaches, such as attachment theory (Bowlby 1979). Relatedness is also referred to as connectedness or belonging (Goodenow 1993). Studies have asserted that the basic need for relatedness facilitates people to become more motivated to undertake an activity, which in turn

further enhances the engagement level. According to SDT, the satisfaction of need for relatedness can facilitate engagement in various activities (Deci and Ryan 1980, 2000). Therefore, in circumstances where consumers participating in brand co-creation innovation experience the satisfaction of perceived relatedness, it is likely that this experience will facilitate the establishment of brand co-creation engagement, which results in feeling a sense of vigor, dedication, and absorption toward brand co-creation. Therefore, we hypothesized that brand co-creation activities that provide consumers with the perceived benefits of relatedness facilitate the establishment of brand co-creation engagement (H4). Therefore, Hypothesis H4 is proposed.

H4. Perceived relatedness generated from the brand co-creation task is positively associated with brand co-creation engagement.

Consequences of Consumer Brand Co-creation Engagement

Brand relationship is often examined through consumer's increased purchase intention (Laroche, Kim, and Zhou 1996; Thomson, MacInnis, and Park 2005; Park et al. 2010), higher brand feedback intention (Lane and Jacobson 1997; Milberg, Park, and McCarthy 1997; Thorbjørnsen 2005) and consumers engaging in helping other consumers with brand related problems (Burmans and Zeplin 2005; Zachary, Massiah and Allan, 2013; Muniz and O'guinn 2001). Hence to examine the co-creation outcome of an enhanced brand relationship, our study focuses on assessing the consequence of purchase intention, feedback intention and helping others intention. Wellins and Concelman (2005) assert that to be engaged is to be vigorously committed to a cause. Commitment is regarded as a binding strength that exists between an individual and an organization (Meyer, Becker, and Vandenberghe 2004). Therefore, when consumers are engaged in the interaction with a brand, they are likely to be actively committed to that brand and show positive purchasing intentions, referral behavior, word-of-mouth behavior and exhibit citizenship behaviors toward the brand (Yen, Hsu, and Huang 2011). Kumar et al. (2010) asserts key elements of customer engagement value. The first element is the customer purchase behaviors, participation in brand communities and displaying active supports to brand related events. The second element is the customer showing self-initiated actions in providing assistance and helping other customers in using the product. And the third value is knowledge, which is demonstrated through providing brand experience feedbacks to the firm. Hence consumers that exhibit brand co-creation engagement are likely to be involved in providing ideas for design and development of new products and providing feedbacks and suggestions for the modifications of existing brands. For example, highly engaged customers of Lego are the most important source of new product ideas for that brand (Gyrd-Jones and Kornum 2012). Additionally, by supplying suggestions, iPhone users who are highly engaged with the brand have further helped improve the usability, usefulness of the phone and provide assistance in helping the firm to expand its customer networks (Arruda-Filho, Cabusas, and Dholakia 2010). Therefore, Hypotheses H5, H6 and H7 were proposed.

H5. Consumer brand co-creation engagement is positively related to purchasing intention.

H6. Consumer brand co-creation engagement is positively related to helping others intention.

H7. Consumer brand co-creation engagement is positively related to brand feedback intention.

Research Method

Development of Measures

In this study, a survey method was used to collect data. Before conducting the formal survey, a qualitative interview session was conducted to obtain a thorough understanding of the consumer–brand co-creation experience, thus providing a grounded and evidence-based foundation for our quantitative study. Ten in-depth interviews with respondents who had previously participated in brand co-creation activities¹ were conducted. The respondents were between 22 and 30 years old, had attained a college education or higher, and lived in urban areas. Approximately half of the sample was male. Each interview lasted approximately one hour. The respondents discussed their motivation for participating in the brand co-creation contest, their experiences in the brand co-creation contest, interactions among team members, and their perceived connection with the brand. We adopted the interview findings to design the questionnaire and to modify the wording of measurement constructs in the questionnaire.

Second-order Measures

Brand co-creation engagement is a complex construct because it reveals a combination of multiple dimensions and is recognized at a relatively abstract level. Therefore, a second-order model approach was adopted to provide an adequate basis for capturing such multifaceted measures and to produce a parsimonious description of the covariation between the first-order factors that constitute the same theoretical construct. The second-order constructs were modeled as reflective factors (Fornell and Bookstein 1982). For the present study, the construct of brand co-creation engagement is adopted from the research of Schaufeli et al. (2002), which indicates vigor, absorption and dedication as three dimensions of engagement. Therefore the observed responses of vigor, absorption, and dedication toward the focal brand co-creation constitute the basis for the second-order construct of brand co-creation engagement.

The measurements of the research constructs are adapted from relevant literature and adjusted for parsimony to suit the research context. The brand–self connection measure was adapted from Escalas and Bettman (2003). The perceived autonomy, competence, and relatedness measures were adapted from Van den Broeck et al. (2010). The purchasing intention, helping others and feedback measurements was adapted from

¹ More information about co-creation activities and co-creation competitions can be found in the following section on *Participant Recruitment*.

Grewal et al. (1998). A total of 47 items were included in the questionnaire, and the items were measured on a 5-point Likert scale (items of measurements are listed in Table 1).

Participant Recruitment

In this study, a brand co-creation competition was adopted as the empirical testing platform to verify the influence of brand co-creation on consumer–brand relationship. This method was used because companies often use competitions or contests to invite consumers to address specific brand topics and to develop innovative ideas. Therefore, the respondents recruited for this study were participants who had attended brand innovation contests.

We selected brand innovation idea competitions conducted by L'Oréal, ATCC, and Chunghwa Telecom as the empirical research platform. Each year L'Oréal organizes L'Oréal Brandstorm, a popular business idea competition for university students across countries. Students collaborated and participated in the competition to propose new product ideas for the brand. The task for L'Oréal was to come up with a new line of haircare/styling product. The ATCC brand competition is one of the

largest business plan competitions held annually in Taiwan. It provides a platform for university students to compete and provide innovative marketing solutions to participating brands. The brands that participated in the brand competition when we conducted the survey included IBM, Audi, Advantech, and Wechat. More than 500 students enrolled and participated in several rounds of competitions to test their brand innovation ideas. For IBM, Audi, Advantech and Wechat, each brand provided a business problem and looked for innovative solutions. Specifically, IBM requested how to leverage big data and data mining to identify market opportunities and build competitive brand positioning for IBM clients. For Audi, the task was to create a strategic integrated marketing plan targeting the niche market for the newly launched Audi's S model. Advantech's task was to request for a strategic plan for global online retailing. For Wechat, the brand co-creation task was to develop a business plan that incorporates the strategic elements of SoLoMo (Social, Location, Mobile). Chunghwa Telecom, the largest telecom company in Taiwan, holds a major innovation contest every year that attracts more than 1000 participants who collaborate and contribute telecom application ideas such as innovative ideas for mobile APP. Although, the

Table 1
Measurement model.

Measurement items	SFL	t-Value	CR	α
Brand–self connection			0.77	0.77
B ₁ I can identify with Brand X	0.66	11.75		
B ₂ I feel a personal connection to Brand X	0.64	11.25		
B ₃ I think Brand X helps me become the type of person I want to be	0.59	10.24		
B ₄ Brand X suits me well	0.79	14.81		
Perceived autonomy			0.63	0.60
C ₁ I feel like I can be myself in the brand contest	0.65	10.65		
C ₂ The things I did for the brand contest are in line with what I really wanted to do	0.65	10.62		
C ₃ In the brand contest, I feel forced to do things I do not want to do (R)	0.50	7.89		
Perceived competence			0.85	0.83
D ₁ I really master my tasks in the brand contest	0.75	14.18		
D ₂ I am good at the things I do in the brand contest	0.83	16.47		
D ₃ I have the feeling that I can even accomplish the most difficult tasks in the brand contest	0.83	16.49		
Perceived relatedness			0.75	0.72
E ₁ In the brand contest, I feel myself part of a group	0.77	13.75		
E ₂ In the brand contest, I can talk with people about things that really matter to me	0.66	11.30		
E ₃ In the brand contest some people I work with are close friends of mine	0.68	11.80		
Brand co-creation engagement			0.79	0.85
BE1 Vigor	0.79	15.10		
BE2 Dedication	0.82	15.92		
BE3 Absorption	0.63	11.39		
Purchase intention			0.86	0.85
K ₁ The probability that I would consider buying Brand X	0.83	16.74		
K ₂ I would purchase Brand X	0.90	18.84		
K ₃ I would consider buying Brand X at this price	0.73	13.97		
Help intention			0.91	0.91
L ₁ I assist other customers in finding Brand X products	0.78	15.61		
L ₂ I help others with their questions for Brand X	0.85	17.96		
L ₃ I show others how to use the products of Brand X correctly	0.89	19.39		
L ₄ I explain to other customers how to use Brand X correctly	0.90	19.52		
Feedback intention			0.91	0.91
E ₁ I fill out customer satisfaction surveys to Brand X's company	0.89	19.35		
E ₂ I provide helpful feedback to Brand X company to improve the product	0.88	18.77		
E ₃ I inform Brand X company about the great usage experience I have received as an individual member	0.88	18.76		

Note: SFL = standard factor loading; CR = construct reliability; α = Cronbach's α ; (R) indicates reverse item.

specifics of the various brand co-creation tasks may differ, the common theme is that through the participation of these brand co-creation contests, consumers are invited to contribute innovative ideas which enhance brand value. The content of these brand innovation contests made them ideal research subjects for this study.

Respondents were identified at the brand co-creation contest. The guidelines for respondent eligibility are that they must have attended the brand co-creation contest personally. The researcher was present at the contests to recruit qualified respondents. After the participants completed the co-creation contest, the researcher approached the participants to explain the objective of the research and invited participants who were interested in filling the paper survey. A total of 363 respondents completed the questionnaire and sixty-three cases were removed from the analysis due to insufficient data, resulting in a valid total sample of 300 respondents. Forty-seven percent (47%) of the respondents were male; fifty-three percent (53%) were female; ninety-eight percent (98%) were between the ages of 16 and 25; almost sixty percent (59.7%) had college education; forty percent (40.3%) had graduate school education.

Results

In this research, we employed SEM to verify the proposed theoretic model and research hypothesis LISREL 8.72 (Joreskog and Sorbom, 1989) is adopted to analyze the survey data. The structural equation model-building task can be thought of as the analysis of two distinct models (Anderson and Gerbing, 1988). A two-step approach in structural equation modeling is required to first measure the confirmatory measurement model, then measure the structural model. A confirmatory measurement model specifies the relationships of the observed measures to their suggested underlying constructs. A structural model then specifies the causal relations of the constructs to one another, as hypothesized by theory. It is contended that the assessment of construct validity from

separate estimation of the measurement model is done preceding the estimation of the structural models. Given acceptable convergent and discriminant validities, the test of the structural model then constitutes a confirmatory assessment of nomological validity. Therefore, the measurement model in conjunction with the structural model enables a comprehensive, confirmatory assessment of construct validity. The two-step approach adopted in this present study provides verification on the reliability and validity of the research model.

Measurement Model Evaluation

Convergent Validity

Confirmatory factor analysis (CFA) was used to assess convergent validity and discriminant validity for the measurement model. All first-order construct items loaded strongly and significantly on the second-order construct. The results indicated that all fit indices were above the acceptable levels. Table 2 shows the standardized factor loadings, value, construct reliability (CR) values, and Cronbach’s α value for the brand co-creation engagement second-order construct measurement model. All items indicated high reliabilities, and Cronbach’s α exceeded the threshold value (0.7). For further analysis, the arithmetical means of the three first-order multi-item constructs (vigor, dedication, and absorption) were adopted to measure second-order construct brand co-creation engagement. The analysis suggested that the proposed conceptual model shown in Fig. 1 fit the data well ($\chi^2 (271) = 411.19$; $\chi^2/df = 1.52$, RMSEA = 0.039, CFI = 0.99, NFI = 0.96, RMR = 0.044, GFI = 0.91). To estimate overall reliability, CR and Cronbach’s α value were adopted as indicators, and the results reflected suitable reliability. The t values of all items were greater than 1.96, obtaining significance at $\alpha < .05$, thus demonstrating good convergent validity (Table 1). To examine the potential effects of common methods bias, we conducted a Harman single-factor test (Podsakoff et al. 2003), one of the most common techniques adopted to address common methods variance. Our results indicated that the single-

Table 2
Brand co-creation engagement second-order confirmatory factor analysis.

Measurement items	SFL	t-Value	CR	α
Vigor			0.89	0.89
H1	When I work on the task for the brand contest, I feel bursting with energy	0.81	–	
H2	At my work I always persevere, even when things do not go well	0.85	16.95	
H3	I can continue working on the task for the brand contest for very long periods of time	0.82	16.17	
H4	I am very resilient, mentally when working on the task for the brand contest	0.82	16.17	
Dedication			0.87	0.87
I1	To me, my task in the brand contest is challenging	0.71	–	
I2	My task in the brand contest inspires me	0.85	13.86	
I3	I am proud of the things that I do in the brand contest	0.82	13.45	
I4	I find the task that I do in the brand contest have full of meaning and purpose	0.80	13.13	
Absorption			0.81	0.80
J1	When I working on the task for the brand contest, I forget everything else around me	0.69	–	
J2	Time flies when I am working on the task for the brand contest	0.75	10.98	
J3	I get carried away when I am working on the task	0.69	10.21	
J4	I feel happy when I am working intensely on the task for the brand contest	0.74	10.82	

Note: 1. SFL = standard factor loading; CR = construct reliability; α = Cronbach’s α .
2. H1, I1, and J1 are fixed items.

Table 3
Measurement of discriminant validity.

	BSC	AUT	COM	REL	BE	PI	HELP	FEED
BSC	1.00							
AUT	0.54 (0.07)	1.00						
COM	0.44 (0.06)	0.60 (0.06)	1.00					
REL	0.33 (0.07)	0.64 (0.06)	0.47 (0.06)	1.00				
BE	0.53 (0.06)	0.66 (0.06)	0.53 (0.05)	0.64 (0.05)	1.00			
PI	0.64 (0.05)	0.44 (0.07)	0.33 (0.06)	0.34 (0.06)	0.52 (0.05)	1.00		
HELP	0.52 (0.05)	0.32 (0.07)	0.36 (0.06)	0.28 (0.06)	0.51 (0.05)	0.64 (0.04)	1.00	
FEED	0.53 (0.05)	0.39 (0.07)	0.40 (0.06)	0.29 (0.06)	0.57 (0.05)	0.50 (0.05)	0.64 (0.04)	1.00

BSC: brand self-connection, AUT: perceived autonomy, COM: perceived competence, REL: perceived relatedness, BE: brand co-creation engagement, PI: purchase intention, HELP: help intention, FEED: feedback intention.

factor model exhibited a poor fit (RMSEA = 0.16, GFI = 0.56, AGFI = 0.5). Therefore, the results suggest that common methods bias was not a major concern in this study.

Discriminant validity

To test the discriminant validity of the construct measurements, we examined the 95% confidence interval (mean \pm two standard errors) around the correlation. If the interval did not include a value of 1, the construct exhibited discriminant validity (Anderson and Gerbing 1988). The examination of the results reflected acceptable discriminant validity, indicating distinctiveness between respective constructs (Table 3).

Structural Model Estimation

Because this study adopted a complex framework that comprised a range of variables, the fit statistics of the full model were acceptable ($\chi^2(286) = 554.24$; $\chi^2/df = 1.94$, RMSEA = 0.057, NFI = 0.95, RMR = 0.071, CFI = 0.98, GFI = 0.87). The other statistics were within the acceptable ranges, indicating a good model fit. Fig. 2 shows that people with high brand-self connection with the brand holding the brand co-creation innovation competition facilitates brand co-creation engagement, thereby supporting H1 ($\gamma = .43$, $t = 5.76$). Results also show that

brand co-creation tasks that provide participants perceived competence positively effects brand co-creation engagement, thereby supporting H3 ($\gamma = .15$, $t = 2.05$). It is found that brand co-creation activities that provide participants perceived relatedness facilitates brand co-creation engagement in brand co-creation thus supporting H4 ($\gamma = .28$, $t = 3.31$). Furthermore, the results show that brand co-creation engagement established in co-creation is positively related to purchase intention, in support of H5 ($\beta = .67$, $t = 9.24$). Moreover, results indicate that consumer brand co-creation engagement is positively related to helping others intention in support of H6 ($\beta = .66$, $t = 9.15$) as well as feedback intention, supporting H7 ($\beta = .68$, $t = 10.02$).

However, the hypothesized positive relationship between the perceived autonomy supplied by brand co-creation tasks and brand co-creation engagement (H2) is not supported ($\gamma = .15$, $t = 1.28$). This indicates that perceived autonomy does not have a significant effect on fostering consumer brand co-creation engagement.

Taken together, the results indicated that the perceived brand connection between participants and a brand, combined with brand co-creation task characteristics that provide participants the perceived benefit of competence, and relatedness, facilitate consumer motivation to participate in brand co-creation, which leads to brand co-creation engagement. The joint effect of the multifaceted perceived brand co-creation benefits facilitates

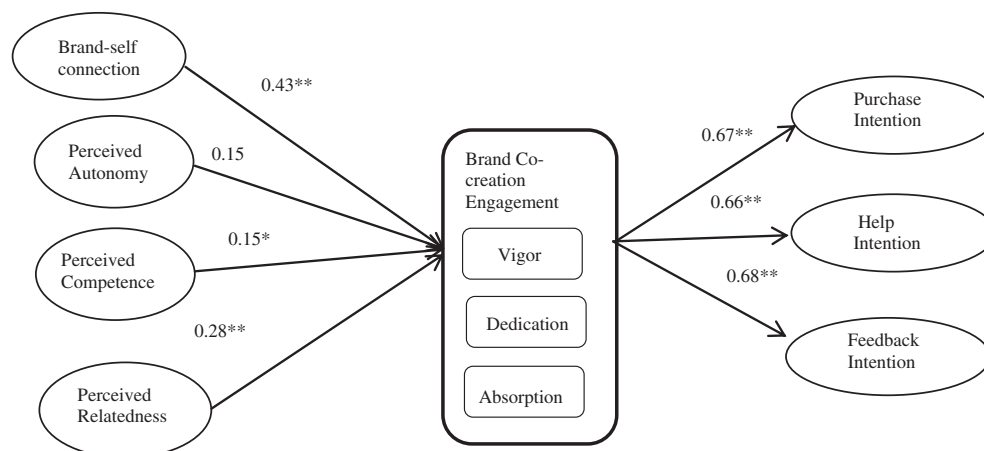


Fig. 2. Estimated model * $p < .05$, ** $p < .01$, and *** $p < .001$.

consumers with strong brand identification to be motivated to participate in brand co-creation, which leads to the establishment of brand co-creation engagement and thereby fabricates deepened brand relationship.

Conclusion

Discussion

This study proposes an integrative framework for synthesizing the perceived psychological benefits associated with co-creation, brand co-creation engagement, and the consequent brand behaviors. Drawing from the theoretical implications of self-determination theory (Deci and Ryan 1980) and implicit self-esteem theory (Greenwald and Banaji 1995), this study obtained results that support the proposed integrated model. The findings elucidate how the psychological mechanisms underlying brand co-creation tasks affect consumers' experiential fabrication of brand co-creation engagement in the value creation process, which further influences their brand behavior. The results indicated that brand–self connection and the perceived psychological benefits of competence and relatedness facilitate the establishment of brand co-creation engagement, which in turn leads to strengthened brand relationship behavior.

We find that high brand–self connection facilitates brand co-creation engagement (H1). This finding is consistent with a previous study asserting consumers who feel closer brand self–connection perceive a sense of unity to the brand, where they may even classify the brand as part of the self, and thus they will show higher brand involvement (Park and Mittal 1985). Hence it is more likely that they will value the recognition and award from the brand which results in higher motivation to participate in brand co-creation that facilitates the establishment of brand co-creation engagement, which in turn leads to brand purchase intention and brand citizenship behavioral intention. Past research indicates that task design characteristics affects consumer's motivation in participating in crowdsourcing contest (Zheng, Li, and Hou 2011). Our finding further demonstrates that aside from task characteristics, brand identification also plays a significant role in facilitating consumer motivation to participate in brand co-creation. This finding is in line with Roberts, Hann and Slaughter (2006)'s result which postulates identification to the open source software co-creation projects has the most important effect in co-creation.

As for the influence of brand co-creation tasks on brand co-creation engagement, our findings indicate that perceived competence is positively associated with brand co-creation engagement (H3). However, the hypothesized effect of brand co-creation tasks that provide perceived autonomy is positively associated with brand co-creation engagement is not supported (H2). These results correspond partially with the findings of Dahl and Moreau (2007), which show that for consumers involved in creative tasks that seek to achieve a target outcome, tasks that provide a balance between perceived competence and perceived autonomy will facilitate a more enjoyable experience for the consumer. Their research also indicates that enjoyment in the creative process, which provides immersion in the

creative task, influences the individual to engage in the tasks. The differences in the effect of perceived autonomy on engagement found in this present study and Dahl and Moreau (2007) may be due to the research context. The research context of this study is a brand co-creation contest. It is likely that factors related to a contest situation may affect the positive association between perceived autonomy and brand co-creation engagement. For example, though consumers may perceive autonomy in the brand co-creation process, when they encounter strong competition at the contest where the perceived difficulty has increased, the possibility to obtain the contest reward may be attenuated, and thus cause a detrimental effect on the establishment of co-creation engagement. The results also indicated that brand co-creation tasks that provide perceived relatedness among co-creation team members facilitate the establishment of brand co-creation engagement (H4), which in turn increases purchasing intention and brand citizenship behavioral intentions. This finding resonates with the study by Nambisan and Baron (2009) in asserting that the nature of a consumer's interaction situated in the community context has a substantial impact on a consumer's perceived benefit. They contend that a consumer's active participation in co-creation is positively influenced by the belief that he/she will receive social benefits such as belongingness. Furthermore, the interaction between consumers in co-creation may produce changes in their affective states which in turn affect firm attitudes (Nambisan and Baron 2007). Our study contributes to show that brand co-creation engagement is an affective state generated in co-creation.

Present research more broadly shows that in addition to the experience of relatedness provided in co-creation activities, the combined experience of perceived competence with relatedness in the co-creation activities works together to impose significant impact on affecting consumer participation. This finding has noteworthy value as it suggests that brands should take proactive efforts to create and design task characteristics in brand co-creation activities that contribute to provide such experiences. In sum, the findings of this present study show that brand co-creation experience which is affected by the attributes of task designs is important in facilitating brand co-creation engagement.

Research Implications

The contributions of this research to brand management studies are three-fold. First, it provides a fresh perspective on consumer brand co-creation by drawing from the theoretical implications of self-determination theory (Deci and Ryan 1980) and implicit self-esteem theory (Greenwald and Banaji 1995) to provide an integrative framework. This research contributes to further extend SDT from the field of organizational behavior to marketing. The interactive platform of brand co-creation where consumers act as co-producers makes SDT ideal to reveal the underlying psychological mechanism. Furthermore by adopting implicit self-esteem theory, this research illuminates that emotional brand ownership can be built in the co-creation process. The proposed model illustrates the synthesized effect of consumers brand-self connection relationships, brand tasks characteristics, and motivations that

work in the dynamic process of brand co-creation experience creates brand co-creation engagement, which further affects consequent brand responses. This study augments the understanding of the brand co-creation process and complements prior research that has focused primarily on specific aspects of the process, such as motivation (Evans and Wolf 2005; Füller 2010) and types of consumer (Kozinets, Hemetsberger, and Schau 2008).

Second, past studies have mainly focused on the economic gains of consumer brand co-creation (Lengnick-Hall 1996; Mills and Morris 1986) and few studies have examined the influence of brand co-creation on consumer brand relationships. This study extended the literature by revealing the crucial psychological causes of brand co-creation engagement. Our research findings complement those of prior research which has revealed that consumer satisfaction increases after consumers participate in the coproduction process (Bendapudi and Leone 2003). Our research complements prior research which indicates that consumers' satisfactions increase after they participate in the co-production process (Bendapudi and Leone 2003). Our study provides further illumination by identifying brand co-creation engagement as the critical psychological state that fosters positive purchase intention and brand citizenship behavioral outcome. As a result, this study exemplifies consumer participation in brand co-creation may generate brand co-creation engagement, an intangible asset that is valuable for firm's competitiveness.

Third, this study advances the understanding of the co-creation effects and demonstrates that individual and team factors interact to affect the brand co-creation experience. This study indicates that the consumer brand–self connection (individual level), perceived competence (individual level) and perceived relatedness derived from team interaction (team level) interact during the brand co-creation process to produce a fundamental impact in driving brand co-creation engagement. Past research has focused primarily on the single-level factors, such as task attributes, that affect participation (Zheng, Li, and Hou 2011). Hence, this study provides a more comprehensive view for examining the individual and group hierarchical factors that influence the co-creation experience.

Managerial Implications

This study provides valuable managerial implications for practitioners. The research reveals why some brand co-creation successfully attracts people to participate, generating innovative outcomes and enhancing the consumer brand relationship. These findings have three managerial implications.

First, firms should design brand co-creation tasks that provide the perceived psychological benefits of competence and relatedness. The higher the perceived competence an individual feels about his/her capabilities, the more likely the individual is to feel equipped and capable of handling work demands, which in turn allows him/her to be fully engaged in their co-creator role (Kahn 1990). Thus marketers should design task characteristics that enhance a participant's perceived competence. Co-creation contests such as an ideation contest for new products has high market uncertainty, which

indicates the firm holding the contest generally does not have clear specifications (Terwiesch and Xu 2008) and sometimes does not have clear goals. Higher level of complexity is related to ambiguity, which requires more cognitive demands and increases difficulty in task solving, while tasks with clear goals allow a better chance of success. Thus marketers should delineate clear objectives and direction in task design to lower the level of complexity and facilitate an individual's perceived competence. Furthermore, roles in the work environment carry status and influence where the underlying dimension is a sense of being influential, being valued, needed and not taken for granted. People pursue ways to feel important and special. Thus, firms can highlight the significant role that the participants play in brand co-creation and their valuable contributions in increasing the brand's competitiveness. This allows the participants to feel a sense of empowerment and competency to see they had made an impact and difference to the brand. Moreover, in the workplace, when a job that requires an individual to apply a variety of skills and knowledge, the job is likely to be more challenging yet more interesting and enjoyable. In a similar vein, a brand co-creation contest which encourages participants to develop solutions from different perspectives also requires an application of diverse skills and knowledge. The participants may feel the task interesting yet more challenging at the same time, so it is important that firms respond to problems that arise during the co-creation process and supply user-friendly tools that simplify the co-creation task to reduce frustration and increase the derived benefits of perceived competence.

When task performances bring satisfying interpersonal interactions with co-workers, individuals are likely to experience psychological meaningfulness which facilitates engagement. This positive connection satisfies the relatedness need which is valuable in team performance. Individuals with trusting interpersonal relationships in a supportive organizational environment experience psychological safety, which allows them to take risks, expose their real selves, and increase the willingness to be more engaged in their work. Therefore, firms can provide organizational support by furnishing a trusting environment which is open and supportive. For example, firms can provide mentors to facilitate interaction, information sharing and feedback between firms and participants, which also shows support and helps to build trust among the participants. Moreover, by creating a pleasant and friendly atmosphere among people in the community participating in brand co-creation, it is likely that perceived relatedness can be fostered which in turn facilitates brand co-creation engagement.

The second implication is that, from a strategic perspective, marketers should invest in building brand strategies that cultivate strong connections with consumers. When individuals consider personal values congruent with the values of the organization they work for, it is likely that they perceive the expectations of the organizational role as congruent with their preferred self-images (Kahn 1990). As a result this leads to more psychological meaningfulness in their work and higher engagement. Thus, when consumers establish strong identification toward a brand, they develop a sense of unity and

cognitive association with the brand, and consumers may even perceive a brand as part of them. The close brand–self connection that is established will encourage consumers to assume a dynamic role when participating in brand co-creation and establishing brand co-creation engagement. Thus, firms should actively manage offline and online brand relationships and foster a sense of community among brand community members to enhance overall connections to a brand. By building strong brand connection and furnishing well designed co-creation task characteristics, firms can transform online brand community members into becoming an ample source for co-creation innovation.

Limitations and Future Research

The findings of this study have their limitations. First, we used data from six brand co-creation competitions held by beauty, automobile, computer, telecommunication, and retail companies. Although we included a range of companies, future studies should investigate a wider array of brand co-creation conducted by other product or service categories. Second, current research calls attention to the psychological mechanism of brand co-creation engagement; future studies should investigate other variables that may influence brand co-creation engagement. For example, the knowledge intensiveness of the tasks may exert an influence because some co-creation tasks require more technical knowledge than others do. Third, co-creation may be sponsored by firms that own the brand or by institutes. Therefore, the opportunities of brand–consumer interaction may vary and may affect the level of engagement, which can be further investigated. Additionally, co-creation tasks often vary in time spans, so future research can examine the effect of co-creation task length on brand co-creation engagement. Despite its limitations, this research illuminates the important role of brand co-creation engagement in brand co-creation to affect brand relationship, and establishes a model that may work as an important foundation on which further research can build.

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