
Is Co-Branding a Double-Edged Sword for Brand Partners?

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Abstract:

Co-branding is a popular business practice, but marketing scholars have paid very limited attention to co-branding success in the horizontal co-branding context. The aim of the current study is therefore to investigate the impact of a good product-fit in terms of attribute-level complementarity on co-branding success. We first define co-branding success, as one of two effects — a synergy effect and a positive spillover effect. Then, assuming attribute-level complementarity exists, we test two hypotheses that correspond to each effect by using a simple perceptual measure of consumer-based brand equity (CBBE) in a laboratory experiment. We find that, counterintuitively, attribute-level complementarity may not lead to a “higher-value” co-branded product and, in fact, may damage both brands’ equity. That is, synergy and positive spillover effects may not always occur, even under the scenario of a good product-fit. Thus, a horizontal co-branding partnership with attribute-level complementarity could be a double-edged sword for brand partners. The present paper demonstrates the connection between the affect-transfer of attribute beliefs and co-branding success. For brand managers, the proposed CBBE measure can provide an ex-ante evaluation of an intended partnership.

Key Words: *Co-Branding, Attribute-Level Complementarities, Consumer-Based Brand Equity, Spill over Effect, Product-Fit*

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1. Introduction

Co-branding is a specific strategic alliance in which two brand names appear on a single product (Leuthesser *et al.*, 2003), and Hadjicharalambous (2006) identified two primary types of co-branding: horizontal (e.g., Sony-Ericsson) and ingredient (e.g., HP laptops with “Intel-inside”). Co-branding has recently become an increasingly popular tactic used by marketers to achieve a success. For instance, in 2001 Sony-Ericsson combined the superior entertainment ability of Sony with the premium skill of wireless communication technology of Ericsson to offer ‘innovative’ co-branded mobile phones; the co-branded product, Doritos Locos Tacos, released in 2012, successfully sells one million units daily and has generated an unexpected positive return on one of the partnering brands, Taco Bell—15,000 extra jobs.¹ Unfortunately, firms do not always achieve a success by co-branding as was the case with the NextCard-Amazon credit card, BenQ-Siemens mobile, and the Target Neiman limited-edition clothes; those are the typical examples of co-branding failures.

To our knowledge, co-branding success has been explored in two major scientific fields, namely the field of strategic alliance (e.g., Venkatesh *et al.*, 2000) and the field of consumer behavior (e.g., Simonin and Ruth, 1998). However, because co-branding is a relatively new phenomenon, additional scientific insights into co-branding success are still required (Helmig *et al.*, 2008). Therefore, the present research enriches the growing body of literature on co-branding success (e.g., Radighieri *et al.*, 2014; Cao and Sorescu, 2013; Newmeyer *et al.*, 2013). Rao and Ruckert (1994) inferred that co-branding success may be evaluated by measuring a co-branded product’s value. Thus, in this research, we define co-branding success as the existence of two effects that help us measure its value. The first effect is a synergy effect on the co-brand: the alliance’s aggregated brand value is greater than the value of each partner’s individual brand value (e.g., whether Sony-Ericsson’s value is greater than Sony’s and Ericsson’s individual brand values). That is, instead of the additive rule (i.e., the sum is greater than the individual parts; Rao and Ruckert, 1994), the maximum rule (cf. Murphy, 1988) is applied here to explain the synergy effect. The second effect is a positive spillover effect: the value of the alliance is greater for each partner than without the alliance (e.g., whether Ericsson’s post-alliance value is greater than its pre-alliance value).

Based on a thorough literature search, previous research on co-branding focuses only on the synergy effect from either the perspective of attitudinal favorability and preferences (e.g., Levin *et al.*, 1996; Park *et al.*, 1996) or financial value and returns (e.g., Chang and Chang, 2012). To the best of our knowledge, no study examines the synergy effect from the perspective of attribute beliefs under a specific product-fit scenario, namely attribute-level complementarity (ALC), on which marketing

scholars have long concentrated (e.g., Park *et al.*, 1996). Similarly, although the literature (e.g., Washburn *et al.*, 2004) has investigated the positive spillover effect by utilizing the consumer-based brand equity (CBBE) measure, researchers have not measured the spillover effect under the ALC scenario.

We argue that this gap is crucial because ALC is considered the key factor of co-branding success (Park *et al.*, 1996). This study bridges this gap by exploring the impacts of ALC on co-branding success by determining whether the synergy and positive spillover effect(s) exist. By addressing this theoretical gap, we advance the co-branding literature by showing the connection between the affect-transfer of attribute beliefs (Hillyer and Tikoo, 1995) and co-branding success. Our new finding is, due to the underlying inconsistency of attribute beliefs, a horizontal co-branding partnership with ALC could be a double-edged sword for the allying brands. On one hand, ALC can increase the awareness level of the allying brands; on the other, ALC may not bring a success in terms of the synergy and positive spillover effects. This trade-off phenomenon is somewhat similar to the nature of transfer of attribute-level uncertainty from one partner to the other (Geylani *et al.*, 2008).

This paper extends that of Levin *et al.* (1996) because we answer the two nearly identical questions. However, different from their study, we use a mathematical modeling approach to analyze the two effects in terms of CBBE from the basic level of attitudinal evaluation, consumers' attribute beliefs. Additionally, compared with Park *et al.* (1996), the current study analyzes the two effects by providing a different way of showing the process of decomposing the attitudinal synergy on the attribute-level. Finally, although most of our experimental procedures are similar to that of Geylani *et al.* (2008), we differ because this current study uses a simpler but a straight-forward, linear additive model to measure the value of brands. In doing so, we can more readily observe the affect-transfer of attribute beliefs in co-branding. The following section introduces the background and research objective. Next, key terms are defined and two hypotheses on co-branding success are presented. Subsequently, the adaptation of the proposed CBBE measure, the procedures and results, and a discussion are presented, followed by the conclusion, contributions, and limitations.

2. Theoretical Background

2.1 Consumer-Based Brand Equity in Co-Branding

Silverman *et al.* (1999) have reported that there are mainly two types of brand equity discussed in the literature: (1) financial-based (e.g., Ambler, 2004), and (2) consumer-based (e.g., Washburn *et al.*, 2000). Consumer-based brand equity (CBBE) is highly relevant to consumers' attitudinal favorability of a brand (Keller,

1993). To our knowledge, very few researchers have explicitly used CBBE to measure the value of a co-branded product. As far as we know, Levin *et al.* (1996) was the first to mention the term “brand equity” in the co-branding field. Their study used the ingredient case of the brownie mix with branded chocolate to test whether the the evaluation of the co-branded product is better than that of each of the partnering brands, but unfortunately their research did not further mention how to develop a CBBE measure. Washburn *et al.* (2000) was the first to use a CBBE measure for evaluating the changes in the brand value of the partnering brands, and indicated that an asymmetric brand pair enhances only the low-equity brand (vs. the high-equity brand). Washburn and Plank (2002) modified Boonghee and Donthu’s (1997) scale for determining the differential impacts of asymmetric brand pairs on the co-brand’s value, and found that existing scales may suffer from residual problems. They recommended that researchers provide a perceptual method of CBBE evaluation (e.g., show the common mental processes of co-branding evaluations). From the viewpoint of information economics, Washburn *et al.* (2004) found that a trial on co-branded products can moderate the CBBE of partnering brands for experience attributes, and that a high-equity brand can enhance consumers’ perception when partnering with another high-equity brand. Two recent studies (Besharat, 2010; Larceneux *et al.*, 2012) also tested the impacts of asymmetric pairs on consumer attitudes and purchase intentions.

In short, most co-branding studies that use CBBE focus on the perceived brand value by assessing consumer attitudes toward a brand. Because the synergy and spillover effects discussed in this study also relate to changes in consumer attitudes and their underlying attribute beliefs, we use the CBBE measure to quantify these two effects individually.

2.2 Co-branding Success and Fits

In a successful case, co-branding may combine the competences and reputations of two brands to provide a higher level of attitudinal favorability of the co-brand — the synergy effect. A better-evaluated co-brand may result in increased market share for each allying brand (Swaminathan *et al.*, 2012) — the positive spillover effect. In contrast, in the worst case, the alliance can cause consumer confusions of the co-brand’s brand image and negative spillover impacts on each partnering brand (Radighieri *et al.*, 2014).

From a psychological viewpoint, we argue that the most crucial factor contributing to co-branding success is the perceived fit between the two allying brands. Fit has been divided into two types in the co-branding research field: the brand-fit and the product-fit. Brand-fit substantially influences co-branding evaluations. Simonin and Ruth (1998) defined a good brand-fit as when a high level of consistency exists

between the brand images of two brands; the leather pen pouch released by Louis Vuitton and Montblanc is such an example. They reported that a better brand-fit is positively associated with a more favorable attitude toward the co-branded product; Baumgarth (2004) and Bouten *et al.* (2011) confirmed Simonin and Ruth (1998)'s finding. Analyzing this from the congruence concept, Walchli (2007) also reported an almost similar result: consumers hold a more favorable attitude toward a moderately incongruent brand pair (i.e., a good brand-fit).

The second type of fit is product-fit. Park *et al.* (1996) appear to be the first to use the term "product-fit" in the co-branding literature; they defined a good product-fit as the existence of ALC: the brand for which the attribute is salient has a higher perceived performance level for that attribute. A similar logic is applicable for the other (e.g., good taste of Godiva and low-calories of Slimfast). Their findings indicated that ALC produces a positive effect on the attitudinal favorability of the co-branded product. Samu *et al.* (1999) validated Park *et al.*'s (1996) findings in a joint-advertising context. Simonin and Ruth (1998) provided another dimension of the product-fit. They defined a good product-fit as a high level of complementarity (or correlation) between the product categories of the allying brands, and found that, under this scenario, consumers exhibited a high level of attitudinal favorability toward the co-branded product. To our knowledge, except for product-fit and brand-fit, other types of fits have been defined in the co-branding literature; for example, the product-brand fit. (Bouten *et al.*, 2011).

In sum, a good fit leads to a successful co-branding alliance in terms of creating a more favorable attitude toward the co-branded product. Specifically, ALC generates the synergy effect, which can be described as when the level of attitudinal favorability of the co-brand is larger than the level of attitudinal favorability of each allying brand. By applying the CBBE concept, this effect can be described as:

Hypothesis 1 (H₁): Under the ALC scenario, the post-alliance CBBE of the co-brand is larger than the pre-alliance CBBE of each allying partner.

Research suggests that consumers' perceived fit may also change their evaluations of the allying brands. Changes in consumer attitudes and beliefs about each allying brand are referred to as spillover effects (Swaminathan *et al.*, 2012). To our understanding, in the field of co-branding, the spillover effect was first examined from the signaling perspective. Rao and Ruckert (1994) suggested that the name of each of the partnering brands can serve as a signal of product quality to the consumers. They showed that a reputable partner should be chosen if one brand needs to enhance its product quality. However, if one brand needs to enhance its attribute-level performance, a partner with the desired functional skill would be appropriate. Continuing this line of research, Rao *et al.* (1999) found that a brand,

which cannot credibly communicate good quality on its own, is able to enhance its quality perceptions when partnering with a high-quality brand. However, the above-mentioned two studies do not explicitly mention the term “spillover effect”.

Park *et al.* (1996) and Simonin and Ruth (1998) observed that a positive spill over (or feedback) effect occurs when a good product-fit exists. Washburn *et al.* (2000) found that a low-equity brand could gain a positive spill over effect if it allies with a high-equity brand. Similarly, Swaminathan *et al.* (2012) found that a trial of a co-branded product of an ingredient co-branding case with a good product-fit (based on relevant categories) may have a large behavioural spill over effect on the purchasing probabilities of previously non-loyal customers. Furthermore, Radighieri *et al.* (2014) concluded that, in an ingredient co-branding case, a positive spill over effect may positively influence the weaker brand more substantially. The aforementioned studies have reported that a good product or brand fit may generate a positive spill over effect on consumer attitudes, and that the better the fit, the stronger the positive spill over effect will be (Helmig *et al.*, 2008).

In addition, Hillyer and Tikoo (1995) utilized the process model (e.g., Petty and Cacioppo, 1986) to argue that the evaluations of the co-brand would vary depending on whether processing about the brand pair is deep or shallow. They found that, by establishing a co-branding partnership (e.g. Sony-Ericsson), the beliefs of attribute performance of the second brand (e.g., Ericsson) may lead to an enhancement or impairment on the beliefs of the primary brand (e.g., Sony). They linked this type of feedback impact to the “affect-transfer” effect. Overall their study infers that the spill over effect could also occur on the belief level. James (2005) and Geylani *et al.* (2008) also confirmed their findings. Additionally, the magnitude of the attitudinal spillover effects is moderated by the order of the brand names (Park *et al.*, 1996), the level of brand familiarity (Simonin and Ruth, 1998), the dependency (Rodrigue and Biswas, 2004), and the difference between initial brand strength (Radighieri *et al.*, 2014). Park *et al.* (1996) found that the spillover effect to the primary brand will occur if the primary brand is evaluated favorably (e.g., Sony in Sony-Ericsson).

Based on the foregoing discussion, a good fit results in a successful co-branding alliance in terms of a positive spillover effect on each allying brand (Radighieri *et al.*, 2014). Specifically, ALC generates a positive spillover effect, which can be described as – the level of attitudinal favorability of each allying brand after the alliance is larger than that of each brand prior to the alliance. Hence we offer the following hypothesis:

Hypothesis 2 (H₂): Under the scenario of ALC, for one partnering brand, post-alliance CBBE is larger than pre-alliance CBBE.

We argue that, for brand managers, these two hypotheses are relevant to two essential managerial decisions, respectively: (1) the extent to which a high-equity brand intends to ally with a low-equity brand when the co-brand may not be able to provide a synergistic effect (Larceneux *et al.*, 2012); (2) the degree to which a partnering brand can agree to maintain a partnership when the co-branding alliance could dilute one's equity (Beem, 2010).

3. Method

3.1 The Development of CBBE Measure

Geylani *et al.* (2008) formulated a mathematical model to show that the spillover effect may occur on the belief level. For two reasons, this current study expands on Geylani *et al.* (2008) to develop a CBBE measure. First, we can utilize their model to show the mental processes of consumer evaluations (i.e., a perceptual measure; cf. Washburn and Plank, 2002) in an ALC case. Secondly, their model provides a basis for building one type of multi-attribute model, the expectancy-value model (Bass and Talarzyk, 1972); Na *et al.* (1999) inferred that using this type of model to measure brand equity is needed and adequate. In addition, the expectancy-value model is also regarded as a useful model for understanding consumer evaluations in the co-branding field (Hillyer and Tikoo, 1995).

We assume that two firms, named *A* and *B*, intend to form a "horizontal co-branding alliance" at time point $i = 1$. Suppose that each firm produces only one product type in the same category and the product is branded with each firm's name. We assume further that at $i = 1$, the market consists of one group of consumers of size $M > 0$ that prefers either *A* or *B*. Suppose that the customers would have known about this planned partnership at $i = 2$, because they either read the co-branded advertisements or purchased the co-branded product between the two periods. Also, we assume that the customers will use two attributes, namely x and y , to evaluate each brand's product and the co-branded product.

As already mentioned, we use the expectancy-value model to formulate consumer preference. The preference of each customer is formulated as a product obtained by multiplying the relative weights of attribute importance $w^H > 0$ ($H \in \{x, y\}$ and $w^H \in (0, 1)$) and each consumer's attribute beliefs about each brand $\gamma_{F(i)}^H > 0$ ($F \in \{A, B\}$). Hence, initially ($i = 1$) each consumer's preference score $\Omega_{F(1)}$ is given by:

$$\Omega_{F(1)} = \sum_H w^H \times \gamma_{F(1)}^H. \quad (1)$$

Similar to Geylani *et al.* (2008), we assume that, initially, attribute $x(y)$ is salient to $A(B)$ for all customers, and therefore:

$$\gamma_{A(1)}^x > \gamma_{B(1)}^x, \quad (2)$$

$$\gamma_{B(1)}^y > \gamma_{A(1)}^y. \quad (3)$$

In addition, D^H denotes the difference in the attribute-level between A and B . That is,

$$D^x = \gamma_{A(1)}^x - \gamma_{B(1)}^x, \quad (4)$$

$$D^y = \gamma_{B(1)}^y - \gamma_{A(1)}^y. \quad (5)$$

Similar to Lee (2009), we use the theory of information integration (Anderson, 1981) to show that co-branding beliefs are formed by combining consumers' pre-alliance beliefs of the allying brands. Hence, co-branding beliefs are expressed as:

$$\gamma_{AB(1)}^x = \kappa_A^x \times \gamma_{A(1)}^x + \kappa_B^x \times \gamma_{B(1)}^x, \text{ where } \kappa_F^x \in [0,1] \text{ and } \sum_F \kappa_F^x = 1, \quad (6)$$

$$\gamma_{AB(1)}^y = \kappa_A^y \times \gamma_{A(1)}^y + \kappa_B^y \times \gamma_{B(1)}^y, \text{ where } \kappa_F^y \in [0,1] \text{ and } \sum_F \kappa_F^y = 1 \quad (7)$$

In equations. (6) and (7), κ_F^H denotes the relative weight of each attribute of each brand that contributes to each consumer's co-branding belief. Different from Geylani *et al.* (2008) and Lee (2009), due to the need of parsimony of our experiment, we do not use the variances of $\gamma_{AB(1)}^H$ to show the reliability of the perceived attribute-level. That is, we do not consider consumers' confusion about the true attribute-levels (Park *et al.*, 1996). Finally, similar to Geylani *et al.* (2008), we assert that consumers' post-alliance beliefs about each brand are formed by integrating co-branding beliefs with pre-alliance beliefs:

$$\gamma_{F(2)}^H = \tau_F^H \times \gamma_{AB(1)}^H + (1 - \tau_F^H) \times \gamma_{F(1)}^H, \text{ where } \tau_F^H \in [0,1]. \quad (8)$$

Please note that τ_F^H in Eq. (8) quantifies the magnitude of the revision. In the following, we use preference score, $\Omega_{F(i)}$, as the CBBE measure, and thus the larger the $\Omega_{F(i)}$, the higher the CBBE. Therefore, we use equations. (9) and (10) to test H₁ and H₂, respectively:

$$\Omega_{AB} > \text{Max}[\Omega_{A(1)}, \Omega_{B(1)}], \tag{9}$$

$$\Omega_{F(2)} > \Omega_{F(1)}. \tag{10}$$

Note that we discuss only one co-branded product, so hereafter we drop the time index ($i = 1$) of the co-branded product’s preference score.

3.2 Experiment Procedures

Similar to Amaldoss and Rapoport (2005), we performed a laboratory experiment to test our hypotheses about consumers’ attitudinal reactions. Also, similar to Geylani *et al.* (2008), our two hypothetical briefcase brands are used, *C* and *L* (corresponding respectively to the brand partners *A* and *B* in our model), as an example of the two allying brands, and we assume that the brands released a co-branded (*L*’s-*C*’s) briefcase. We assume that the briefcase is evaluated based on two attributes, durability and style (corresponding to attribute *x* and *y*, respectively), because both were identified as key attributes that consumers use to evaluate briefcases (Ahluwalia and Gurhan-Canli, 2000).

As motivated by Geylani *et al.* (2008), the experiment contains two conditions: in condition 1, the two brands showed a different attribute-level difference while in condition 2 the two brands showed an equal attribute-level difference. That is, the only control variable is the attribute-level difference (i.e., one-dimension Euclidean distance) between the partnering brands on durability and style (i.e., D^x and D^y in Eqs. (4) and (5)). Table 1 illustrates the conditions.

Table 1: Experiment Conditions (scores are 1 to 100)

Condition	Perceived attribute-level of durability of <i>C</i>	Perceived attribute-level of durability of <i>L</i>	Perceived attribute-level of style of <i>C</i>	Perceived attribute-level of style of <i>L</i>
1	70	40	50	70
2	70	40	40	70

For each condition, each procedural step is summarized as follows:

1. Perceptions of Allying Brands.

As motivated by Geylani *et al.* (2008), subjects were presented with four histograms showing the history of previous durability and style perceptions of briefcase brands *C* and *L* — a frequency chart of ratings by 100 users. We used the histograms to manipulate participants' perceptions of ALC between *C* and *L*: *C*'s leading attribute is durability and *L*'s leading attribute is style (Eqs. (2) and (3)). In addition, the weight of attribute importance (w^H in Eq. (1)) was measured by asking subjects to allocate 100 points between the two attributes, based on the relative importance of each attribute. Finally, we used the number of points assigned to each attribute to rate the weight (Wilkie and Pessemier, 1973).

2. Pre-alliance CBBE.

As inspired by Rust *et al.* (1999), participants were then asked about their pre-alliance attribute-level by completing the following sentence: "I would expect the durability/style of a product of *C*'s (*L*'s) ($\gamma_{F(1)}^H$ in Eq. (1)) to be ___" [i.e., from 0 to 100]. The pre-alliance CBBE of two brands, were then computed, $\Omega_{F(1)}$ (Eq. (1)).

3. CBBE of the Co-brand.

As motivated by the advertisement used in Simonin and Ruth (1998), an advertisement stimuli showing the co-branding message was presented to all participants. The attribute-level of the co-branded product was then collected, ($\gamma_{AB(1)}^x$ and $\gamma_{AB(1)}^y$ in Eqs. (6) and (7)) with this prompt: "I would expect durability/style of an *L*'s-*C* product to be ___" [i.e., from 0 to 100]. According to the collected data, we can compute the co-brand's CBBE, Ω_{LC} .

4. Post-alliance CBBE.

To clear their short-term memory, subjects were asked to complete an unrelated filler task for about 10 minutes (Geylani *et al.*, 2008). After the task, the post-alliance attribute-levels were obtained by stating "I would expect the durability (style) of a product of *C*'s (*L*'s) ($\gamma_{F(2)}^H$ in Eq. (8)) to be ___" [i.e., from 0 to 100]".

Finally, we can measure post-alliance CBBE of the two brands, $\Omega_{F(2)}$.

Note that the above procedures are almost the same as Geylani *et al.* (2008), but our experiments are different in two aspects. First, we used a different way to present the co-branding stimuli by using a frequency chart of score ratings by one-hundred users. Secondly, due to the requirement of parsimony, we assumed the attribute-level difference of the two attributes were the same (cf. Eqs. (4) and (5)) and only tested our hypotheses under two conditions.

Three pretests were conducted prior to the formal experiment. The first pretest was aimed to re-confirm that the participants considered durability and style as important attributes of briefcases (9-point scale; cf. Broniarczyk and Alba, 1994); the result confirmed the importance of durability and style for consumers purchasing a briefcase (average rating of durability, 7.5; average rating of style, 7.12; n=49). The second pretest aimed to assure that the participants understood how to read the exact counts corresponding with the bins of the attribute-level in each histogram. All participants (n=159) were able to identify the corresponding attribute-level. The third pretest aimed to ensure that the participants knew how to allocate the weight of each attribute's importance. The results indicated that all the participants (n=49) successfully divided 100 points into the two attributes.

4. Results and Discussion

Sixty-three undergraduate students were randomly assigned to each condition. H_1 investigates the synergy effect: whether the CBBE of the co-brand (Ω_{LC}) is larger than the pre-alliance CBBE of each allying brand ($\Omega_{L(1)}$ and $\Omega_{C(1)}$). H_2 examines the positive spill over effect: whether the post-alliance CBBE of one brand (e.g., $\Omega_{L(2)}$) is larger than the pre-alliance CBBE (e.g., $\Omega_{L(1)}$).

Our experiments aim to test whether each individual (subject) has such the synergy and spillover influences on the co-brand and the brand partners, respectively. That is, we assessed each individual's CBBE of the co-brand and of the two individual brands before and after the alliance. Due to the small sample size (n<36) under both conditions, we used the sign test (cf. Armstrong and Overton, 1977) to validate H_1 and H_2 , instead of the Pair-Sample t test. The results show that H_1 is not supported under either condition, and that H_2 is supported only for C in condition 1 ($z=5.5$) and for L in condition 2 ($z=1.964$). Table 2 shows the results.

Table 2. Results

H ₁		
Condition	1	2 [^]
Sample Size	34	27
Number of {CBBE of Co-brand > Max[pre-CBBE of C, pre-CBBE of L]}	19	13
The value of z	1.257	0.852
H ₂		
Condition	1	2 [^]
Number of {post-CBBE > pre-CBBE: brand C}	20	13
Number of {post-CBBE > pre-CBBE: brand L}	14	14
For C, the value of z	5.5 ^a	0.852
For L, the value of z	-0.5	1.964 ^a

The results show that the synergy effect (H₁) does not occur, and we observe that, in some cases, CBBE of the co-branded product is a weighted average of CBBE of the two allying brands. This finding is not surprising because it echoes Levin *et al.*'s (1996) finding that the attitudinal evaluations of a co-branded product are an average of the evaluation of the individual brands; we show the same result in terms of CBBE. To our knowledge, we also replicated the findings of Geylani *et al.* (2008) who have argued that the attribute-levels of the co-branded product are a weighted average of the two allying brands' initial attribute-levels. That is, by using an expectancy-value modeling approach, the CBBE of the co-branded product may be also a weighted average of the CBBE of the allying brands.

In addition, we find that the positive spillover effect does not always occur (H₂): in two cases — *L* in condition 1 and *C* in condition 2 — post-alliance equity is smaller than pre-alliance equity (i.e., negative spillover effect). As far as we know, this negative effect, in terms of brand equity, relates to the affect-transfer effect (Broniarczyk and Alba, 1994). In the brand extension context, affect-transfer suggests that brand-specific associations are transferred from the original brand (e.g., the breath-freshening ability of the toothpaste brand, Close-Up) to the extension (Broniarczyk and Alba, 1994). In this paper, the affect-transfer effect is connected to a good product-fit (ALC). That is, based on the underlying inconsistent attribute information of ALC, consumers tend to revise their initial brand-specific associations (i.e., attribute beliefs) of the two brands, and thus the affect of a consumer with one brand is transferred to the other through the alliance (Hillyer and Tikoo, 1995; James, 2005; Dickinson and Barker, 2007). This study finds that this mutual transfer dilutes each brand partner's CBBE, and, by our definition, causes a failure.

5. Conclusion

This paper bridges a major gap in the co-branding literature — the influences of attribute-level complementarity (a specific type of product-fit) on co-branding success in a horizontal co-branding context. We define co-branding success as the occurrence of synergy and positive spillover effects, and provide two hypotheses corresponding to each effect. We propose a perceptual CBBE measure for testing hypotheses in a laboratory experiment. Counterintuitively, we show that co-branding success does not always result in such a success even with a good product-fit: a horizontal co-branding partnership with ALC may provide a signal of greater assurance about product quality (Park *et al.*, 1996), but that inconsistent nature of ALC may not lead to a “higher-value” co-branded product, and, instead, may damage both brands’ equity. Therefore, co-branding is a double-edged sword — like a solidly-built house can protect its inhabitants from the elements, when a severe earthquake strikes, it may collapse and claim more lives because it has no flexibility. Based on our findings, brand managers should consider both risk of equity loss and the benefits of horizontal co-branding with ALC.

This study advances the co-branding literature in three ways. First, this study offers a methodological contribution. Instead of discussions regarding scale construction of CBBE measurement in co-branding research (e.g., Washburn and Plank, 2002), we expand on Geylani *et al.* (2008) to offer a new perceptual CBBE measure, and this could be regarded as a simpler one, like that of Na *et al.*’s (1999) multi-attribute brand power model. By using this measure, we also advance co-branding literature by connecting the lines between the affect-transfer of attribute beliefs (H_2) and co-branding success. Secondly, we validate Levin *et al.*’s (1996) argument from the brand equity viewpoint (H_1). Finally, in contrast to Desai and Keller (2002), Swaminathan *et al.* (2012), and Radighieri *et al.* (2014), we test the spillover effects on the equity level in a horizontal co-branding partnership.

For brand managers, we suggest that, instead of horizontal co-branding, ingredient co-branding (e.g., Gore-Tex with Timberland) could be a much better option. Because the ingredient brand (Gore-Tex) may excel in a single *unique* attribute (waterproof) that the host brand (Timberland) does not offer, ingredient co-branding may provide a mutually positive influence on equities for both partners.

This study is not without limitations. A critical limitation is the small sample size. We carried out our experiments by collecting data from sixty-three respondents. Due to this limitation, we use the sign test and therefore lose to have a strong statistical power. Furthermore, the use of the expectancy-value model for developing the CBBE measure is another limitation. Although this approach has been recommended by Na *et al.* (1999) for measuring brand equity, the inherent assumption of this model (e.g., “the more the better”; Shocker and Srinivasan, 1979) may weaken our conclusion. Future studies could use different models of attitude

formation (e.g., the idea-point model; cf. Carpenter and Nakamoto, 1989) to test whether the negative spill over effects always exist.

Notes:

1. We use the term “allying brand” or the term “partnering brand” interchangeably to represent the co-branding partner (e.g., Sony or Ericsson of the Sony-Ericsson alliance).

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