Mark Lett
DOI 10.1007/s11002-013-9231-8

# Ingredient branding and feedback effects: The impact of product outcomes, initial parent brand strength asymmetry, and parent brand role

**Jeffrey P. Radighieri · Babu John Mariadoss · Yany Grégoire · Jean L. Johnson**



**Abstract** Ingredient branding is a popular strategy involving two "parent" brands developing a co-branded product, called an ingredient branding offering (IBO). Drawing on extant brand literatures, we investigate how brand feedback effects are influenced by (1) the initial brand strength among the parent brands (low vs. high), (2) parent brand roles (whether the brand is the host or ingredient), and (3) IBO success and failure. Three experiments indicate that IBO success positively affects both parent brands, but the positive feedback is much more substantial for the weaker (vs. the stronger) brand. Under the failure condition, the strong ingredient brand is the only parent that is somewhat protected from an IBO failure. All the other IBO possibilities—in terms of brand strength and parent role—suffer from substantial negative feedback and share a high level of responsibility for the failure. Managerial and theoretical implications are drawn from these results.

**Keywords** Ingredient branding · Brand alliance · Feedback · Brand failure · Associations

An ingredient branding offering (IBO), the incorporation of parent brand attributes as ingredients into another brand (Desai and Keller 2002), allows two brands to enter into a cooperative arrangement to increase market competitiveness (Simonin and Ruth 1998). An IBO capitalizes on established brand equities by integrating features of existing brands into the design of a new product. The IBO parent brands are the "host," the main product, and the "ingredient," a component that is integrated into the

J. P. Radighieri (✉)
Marketing Department, School of Business Administration, University of Houston-Victoria, 14000 University Blvd, Sugar Land, TX 77479, USA
e-mail: radighierij@uhv.edu

B. John Mariadoss · J. L. Johnson
Department of Marketing, College of Business, Washington State University, Pullman, USA

Y. Grégoire
Department of Marketing, HEC Montréal, Québec, Canada

Published online: 05 March 2013

IBO. For example, Dell computer is the host and an Intel microprocessor is the ingredient in the IBO "Dell with Intel Inside." Research on ingredient branding examines the determinants of IBO success (Desai and Keller 2002) as well as their feedback or spillover on the hosts and IBOs (Park et al. 1996; Rodrigue and Biswas 2004). IBO feedback effects (i.e., changes in consumers' evaluation of the parent brands subsequent to an IBO) involve changes in consumer attitudes toward the original parent brands resulting from the IBO. Research hints that different combinations of branded and unbranded components in an IBO may result in differing impacts on the parent brands (Venkatesh and Mahajan 1997).

In light of the growing popularity of IBOs, key questions emerge. (1) A key concern is the effect of IBO feedback on the two parent brands should the IBO fail. While research establishes the existence of IBO feedback effects (Desai and Keller 2002; Park et al. 1996), extant literature focuses only on positive outcomes. To our knowledge, no study investigates the impact of a failed IBO on the parent brands. This gap is key because marketplace realities indicate that new products often fail—there are no guarantees for IBO success. (2) Another concern relates to parent brands' differing levels of initial strength.[1] Though extant research assumes equal initial parent brand strength, in reality, many IBOs involve hosts and ingredients with *asymmetric* initial brand equities. Evidence indicates that disparate IBO parent brand strength affects evaluation of the IBO (e.g., Simonin and Ruth 1998). In sum, these findings suggest that IBO feedback effects with asymmetric parent brand equities need to be examined.

Since the possibilities of IBO failure and of initial parent brand strength asymmetry are marketplace realities, we advance the literature by investigating IBO feedback effects on parent brands. We show differential feedback effects of IBO failure, relative to IBO success, when the initial parent brand equities are unbalanced, and under conditions of whether the target of the feedback effect is the host or the ingredient. The article is organized as follows: key concepts are defined and hypotheses are developed. Subsequently, we describe the experiments and discuss their implications.

## 1 Ingredient brand transfer effects

Allying with a strong ingredient brand helps a host overcome weaknesses in its product category and also broadens its appeal by the association with other brands (Park et al. 1996). Essentially, this involves transfer effects, where association between the brands affects consumer evaluations of them. Similar to brand extension research showing that parent brands influence evaluation of extensions (e.g., Aaker and Keller 1990), IBO research shows that parent brand evaluations transfer to the IBO (e.g., Voss and Gammoh 2004; Washburn et al. 2000) and between IBO parents (Simonin and Ruth 1998).

We focus on a specific type of transfer effects known as feedback effects, which are also referred to as reciprocal effects (e.g., Loken and John 1993) or spillover

[1] In this paper, we use the term "brand strength" to refer to a brand's familiarity and favorability (e.g., Aaker 1991).

effects (Simonin and Ruth 1998). Feedback effects are changes in attitudes and beliefs regarding the parent brands caused by an IBO. Extant IBO research has focused primarily on positive feedback effects (e.g., Balachander and Ghose 2003; Simonin and Ruth 1998; Park et al. 1996). While rare, research also evidences negative feedback, where the negative evaluation of an IBO erodes the standing of the parent brand (Venkatesh and Mahajan 1997; Votolato and Unnava 2006). Relatedly, brand extension research on negative feedback effects (e.g., Keller and Sood 2003; Loken and John 1993; Milberg et al. 1997) is rare as well as equivocal (e.g., Romeo 1991; Keller and Aaker 1992); however, it does suggest the possibility of negative feedback after an extension failure (e.g., Ahluwalia and Gurhan-Canli 2000; Swaminathan et al. 2001).

Overall, extant IBO and brand extension research informs adequately on the positive feedback effects of a successful IBO. Yet, the very real possibility of an IBO failure has not been addressed. This research gap is important given that positive information (IBO success) vs. negative information (IBO failure) likely results in differential feedback effects (Herr et al. 1991). Understanding IBO feedback effects can be augmented by examining the conditions generating positive and negative feedback effects.

## 2 Feedback effects in IBO success and failure

Because they involve more than one brand, IBO feedback effects are more complex and have implications that are distinct from single brand extension feedback, yet they share some commonalities. Similar to IBO feedback effects, brand extension feedback occurs when the evaluation of a brand extension changes the standing of the parent brand. Hence, an IBO can be seen as the extension of either of the two parent brands. Since an IBO has more than one parent brand, consumers have additional cues from an extra brand they can use to evaluate the parent brands. In this context, parent brand evaluations (or feedback) will depend upon how consumers go about sorting these available cues.

Literature on responsibility attributions (e.g., Hamilton 1978; Hamilton et al. 1988) suggests that the notion of blame and credit depend on what an actor did (i.e., consequences of an action) and what the actor is normatively expected to do (i.e., roles). Attribution theory suggests that both consequences of action and actors' social roles determine responsibility (Hamilton 1978). When individuals perceive an actor to be responsible for failure, they ascribe blame (Alfred 1999; Weiner 1986), whereas under success conditions, they credit the actor (Crant and Bateman 1993). Here, we expect that under both success and failure conditions, consumers will use the most accessible and relevant reference point to evaluate the consequence of an IBO formation, the initial level of brand strength. In other words, the initial parent brand equities provide the basis for assigning feedback to the IBO's parent brands.

Specifically, we expect greater changes in feedback effects for the weaker parent brand compared with its stronger counterpart, under both successes and failures. Past research suggests that the initial brand equities of an IBO parent brand will influence information processing and brand evaluation (Alba and Hutchinson 1987; Fazio 1986; Johnson and Russo 1984; Ratneshwar et al. 1987). The degree of liking for a

strong brand is generally well established and stable because brand related associations are extensive (Bettman and Sujan 1987). Due to the extensiveness of these associations, the evaluations of strong brands should be more resistant to change (Simonin and Ruth 1998), after both successes and failures.

In the case of a weak parent brand, preexisting attitudes are unformed, and its existing network of associations is relatively small and weak in accessibility (Fazio 1989). Hence, IBO success or failure represents new information that will add relevant brand specific associations (Broniarczyk and Alba 1994). For a successful IBO, by virtue of its lack of strength, the room for change is larger, resulting in larger change in the initial strength of the weaker brand compared with the stronger brand. This prediction is consistent with research suggesting that stronger brands receive only marginal benefit after a favorable experience (e.g., Keller and Sood 2003).

Similarly, with IBO failure, we argue that the weaker parent brand will be assigned more blame for the failure, compared with the stronger parent brand. Extant literature evidences this, indicating that failed brand alliances lead to more blame being placed on private (vs. national) brands (Vaidyanathan and Aggarwal 2000), which are typically lower in quality (compared with national ones). Thus, we reason that a weaker brand in an IBO, regardless of its role as host or ingredient, is more likely blamed for an IBO failure. Using the same line of reasoning, we also expect that a failed IBO would bring less criticism and fewer negative consequences for the strong brand, compared with its weaker counterpart. Formally, with either IBO success or failure, when IBO parent brands have disparate levels of initial brand strength, we hypothesize that the stronger parent brand will experience less feedback (i.e., less change in attitudes and beliefs) than the weaker brand, regardless of whether the stronger brand is host or ingredient.

## 3 Study 1

### 3.1 Design, procedure, and manipulation checks

To test our general hypothesis, we performed a 2 (asymmetric IBO: strong host-weak ingredient vs. weak host-strong ingredient)×2 (outcome: success vs. failure)×2 (parent evaluation: host and ingredient) mixed experimental design. The first two factors are between subject, and the third factor is within subject. A mobile phone with camera technology was chosen as the category.

A pretest was conducted to identify host and ingredient brands. Subjects were asked to rate various brands on a four-item, nine-point composite scale, adapted from Dawar and Pillutla (2000) and Lehmann et al. (2008). This scale included four dimensions: (1) perceived performance ("the brand is effective"), (2) perceived quality ("this brand is made to high standards"), and (3) brand attitude ("to what degree is *X* an attractive brand" and "please evaluate *X* on a good/bad dimension"). The results indicated Nokia and Audiovox ($M_{\text{Nokia}}=4.90>M_{\text{Audiovox}}=4.28$, $t(694)=5.41$; $p<0.001$) as the strong and weak mobile phone brands (host), respectively, and Kodak and Vivitar ($M_{\text{Kodak}}=6.26>M_{\text{Vivitar}}=4.02$, $t(683)=17.92$; $p<0.001$), as the strong and weak camera brands (the ingredient).

One hundred fifty undergraduate students were randomly assigned to one of four between-subject conditions. Below, each step of the procedure is summarized and the manipulation checks are explained.

1. *Cover story*. Subjects read that a consultancy is seeking customer opinions on various brands.
2. *Asymmetry in the initial parent brand strength*. Participants were then exposed to the asymmetry manipulation where they evaluated brands that would eventually become the IBO parents (first factor). Participants were assigned to two scenarios: (1) the host with higher strength relative to the ingredient, or (2) the ingredient with higher strength relative to the host.
3. *First manipulation check*. To check the validity of the asymmetry manipulation, we measured and compared the strength of the host ($\alpha$=0.90, $M$=4.82, and SD=1.54) and ingredient ($\alpha$=0.97, $M$=5.86, SD=2.15) with the same four-item scales previously used. In the strong host condition, the host had the stronger initial strength ($M_{\text{strong host}}$=5.43>$M_{\text{weak ingredient}}$=4.10; $t$(148)=5.38; $p$<0.001). In the strong ingredient condition, the ingredient had the stronger initial brand strength ($M_{\text{weak host}}$=4.20<$M_{\text{strong ingredient}}$=7.67; $t$(148)=−18.25; $p$<0.001), validating the asymmetry manipulation.
4. *Outcomes manipulation*. Participants learned that the host and the ingredient had formed an IBO, and they were exposed to the outcomes manipulation (second factor). Failure and success were manipulated using a scenario based on both consumer evaluations and market performance. For instance, the participants read that "market tests have shown that the product is favored (not favored) over the competition" and that "retailers and distributors have reported strong (sluggish) sales."
5. *Second manipulation check*. The IBO outcome manipulation was validated using a nine point three-item scale that asked if the IBO was a success, anchored by "strongly disagree" and "strongly agree" ($\alpha$=0.92, $M$=4.58, and SD=2.54). Here, our analysis revealed that the outcome manipulation had a significant effect with the means in the expected directions ($M_{\text{success}}$=6.61>$M_{\text{failure}}$=2.55; $t$(148)=16.38; $p$<0.001).
6. *Feedback effects*. Participants then answered questions about their subsequent evaluation of brand strength, post IBO (host: $\alpha$=0.92, $M$=4.64, and SD=1.93; ingredient: $\alpha$=0.97, $M$=5.64, and SD=2.19). All participants provided information about *both* parents, for a within-subject factor (third factor).

### 3.2 Dependent measure

Feedback effects were calculated by subtracting the initial evaluation of brand strength (step 3) from its subsequent measure (step 6). This figure was then divided by the initial evaluation of brand strength to provide a comparable measure of percentage change (Homburg et al. 2005). Positive (negative) values indicate positive (negative) feedback.

### 3.3 Results

A 2 (asymmetric IBO)×2 (outcome)×2 (parent evaluation) mixed ANOVA was used (e.g., Barone et al. 2000; Zhang and Sood 2002). Figure 1 shows means for the

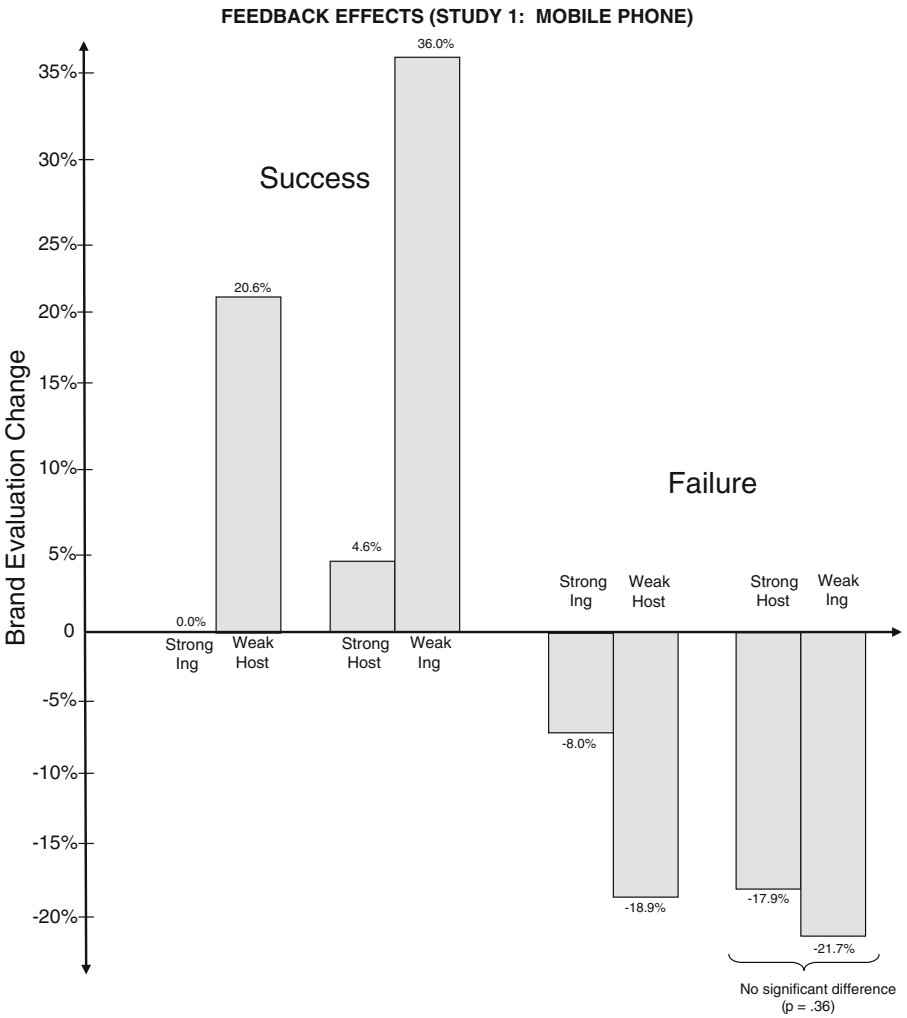


**Fig. 1** The impact of brand asymmetry and IBO outcomes on feedback effects (study 1: mobile phone)

brands in all conditions. The mixed ANOVA revealed a three-way interaction between the three factors ($F(1, 146)=15.93$; $p<0.001$). Simpler analyses for the success and failure conditions follow.

To examine the differences in positive feedback, a 2 (asymmetric IBO)×2 (parent evaluation) mixed ANOVA was performed (only for the success condition), and a significant two-way interaction emerged ($F(1, 73)=11.79$; $p<0.001$). When the ingredient is stronger than the host, it experiences less positive feedback than the weaker host ($M_{\text{strong ingredient}}=0\ \%<M_{\text{weak host}}=20.6\ \%$; $t(35)=3.82$; $p<0.001$). When the host is stronger than the ingredient, it also experiences less positive feedback than the weaker ingredient ($M_{\text{strong host}}=4.6\ \%<M_{\text{weak ingredient}}=36\ \%$, $t(38)=-2.30$; $p<0.05$). Consistent with our hypothesis, this indicates that a strong parent brand gains less positive feedback (vs. the weaker parent) from a successful IBO, regardless of its role as host or ingredient.

An identical approach was followed for the failure condition where a two-way interaction is also present ($F(1, 73)=4.31$; $p<0.05$). When the ingredient is stronger than the host, it experiences less negative feedback (in absolute terms) than the weaker host ($M_{\text{strong ingredient}}=\left|-8.0\ \%\right| < M_{\text{weak host}}=\left|-18.9\ \%\right|$, $t(37)=-2.09$; $p<0.05$), which is consistent with our prediction. However, we did not find a significant difference for the IBO characterized by a strong host and a weak ingredient: when the host is stronger than the ingredient, both host and ingredient experience a similar level of negative feedback ($M_{\text{strong host}}=-17.9\ \% \approx M_{\text{weak ingredient}}=-21.7\ \%$, $t(36)=0.81$; $p=0.36$). Here, this last set of results is the only case that does not support our initial hypothesis.

### 3.4 Discussion of study 1

Study 1 indicates that stronger brands experience less feedback with successful IBOs involving mobile phones and cameras. The findings indicate that the initial brand strength plays a key role in determining how brands are evaluated after successful IBOs. The strong brands (a Nokia phone and a Kodak camera) gain minimal strength after a success whereas the weaker brands (an Audiovox phone and a Vivitar camera) enjoy a remarkable increase in positive feedback.

The findings are not as clear when IBOs fail, and they do not fully support our initial prediction. Compared with the success condition, there is less variation among the different actors in a failure context: all the brands suffer to some extent from a failed IBO. The only brand that is somewhat protected is the strong ingredient brand (i.e., Kodak) when it formed an IBO with a weaker host. For the other IBO (strong host and weak ingredient), both parents record a similar and substantive decrease in brand strength. This result was somewhat unexpected as the strong brand associated with the host (Nokia) did not play a role of "safety cushion" for the failed IBO.

Limitations in study 1 could explain this pattern of results. First, there is a possibility that the strong host used in this study (Nokia) or the product category (mobile phone) is associated with some uncontrolled characteristics that would explain the surprising results for a failure. Second, our measurement of feedback effects, which relies on before and after comparison, could be vulnerable to ceiling effects which would explain the lesser variation observed for strong brands in the success condition.

## 4 Study 2

Study 2 was specifically designed to account for the limitations of study 1. First, study 2 replicates our prior findings in a completely different IBO context: cookies (host) with chocolate chips (ingredient). Second, study 2 uses a different measurement of feedback effects that rules out the possibility that the findings for the strong parents were caused by a methodological artifact. This new dependent variable eliminates the potential ceiling and floor effects as a root cause of the results found in study 1.

### 4.1 Design, procedure, and manipulation checks

The design of study 2 was the same as in study 1: a 2 (asymmetric IBO)×2 (outcome) by two (parent evaluation) mixed experimental design. Study 2 also follows the same

six step procedures. Overall, 160 subjects participated in the experiment in exchange for course credit. As in study 1, subjects rated brand strength in a pre-IBO step before viewing the IBO information. In the strong host condition, the host (Chips Ahoy) had the stronger initial brand strength compared with the ingredient (Chocolicious; $M_{\text{strong host}}=4.41>M_{\text{weak ingredient}}=2.46$; $t(75)=14.59$; $p<0.001$). In the strong ingredient condition, the ingredient (Toll House) had the greater initial brand strength than the host (Auntie's; $M_{\text{weak host}}=2.33<M_{\text{strong ingredient}}=4.66$; $t(83)=-14.55$; $p<0.001$), validating the asymmetry manipulation. The outcome manipulation was also successful: it had a significant effect on the check with the means in the expected directions ($M_{\text{success}}=6.09>M_{\text{failure}}=2.00$; $t(41)=11.17$; $p<0.001$).[2]

### 4.2 Dependent measure

In order to control for ceiling and floor effects, a new dependent measure was created. Rather than using the same strength items after the IBO outcome and comparing them to the pre-IBO items, study 2 uses a comparative single item measure. Subjects were asked "now that you have new information about the involved brands, how would you now rate them, as compared to before?" The single item measure was an eleven point scale, anchored by "much worse" (scale point, −5) on one end, "much better" (scale point, +5) on the other end, with a midpoint of "the same" (scale point, 0).

### 4.3 Results

As in study 1, a 2 (asymmetric IBO)×2 (outcome)×2 (parent evaluation) mixed ANOVA was conducted, and the three-way interaction was also significant ($F(1, 156)=28.97$; $p<0.001$). The overall results are presented in Fig. 2 and explained below for the success and failure conditions.

For the success condition, we performed a 2 (asymmetric IBO)×2 (parent evaluation) mixed ANOVA, and the two-way interaction was significant ($F(1, 78)=20.20$; $p<0.01$). When the ingredient is stronger than the host, the ingredient gains less positive feedback ($M_{\text{strong ingredient}}=0.90<M_{\text{weak host}}=2.39$, $t(40)=4.62$; $p<0.001$). In turn, when the host is stronger than the ingredient, the host gains less positive feedback ($M_{\text{strong host}}=1.38<M_{\text{weak ingredient}}=2.15$, $t(38)=-1.98$; $p=0.05$). Consistent with study 1 and our general hypothesis, the weak brand received the larger increase in brand strength, regardless of its role as a host or ingredient.

In the failure condition, we also found a significant two-way interaction ($F(1, 78)=10.13$; $p<0.01$). Overall, study 2 mirrors the results of study 1. Again the strong ingredient received less negative feedback, in absolute terms, than the weaker host ($M_{\text{strong ingredient}} = |-1.22| < M_{\text{weak host}} = |-2.44|$, $t(42) = 3.40$; $p$ ). However, replicating the surprising results of study 1, the strong host experiences as much negative feedback as the weak ingredient ($M_{\text{strong host}} = -1.81 \approx M_{\text{weak ingredient}} = -2.32$, $t \times (36) = 1.24$; $p = 0.22$ ). In sum, a differentiated level of negative feedback is only found for the "strong ingredient-weak host" IBO, which is in line with our prediction. However, we did not obtain the expected difference in negative feedback for the "strong host-weak ingredient" IBO, a result that is somewhat puzzling.

[2] The outcome manipulation was checked using a separate sample consisting of 43 subjects.

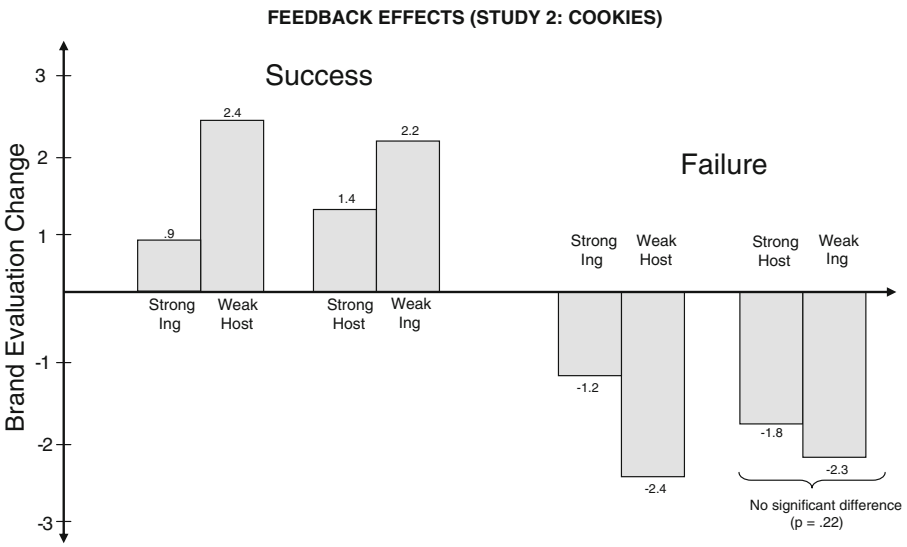


**Fig. 2** The impact of brand asymmetry and IBO outcomes on feedback effects (study 2: cookies)

### 4.4 Discussion of study 2

The results of study 2 mirror those of study 1 in a completely different context (from mobile phone to chocolate chip cookies), and after using a different feedback measure that rules out biases related to potential ceiling/floor effects. These two studies provide robust evidence that the initial level of brand strength is an important cue to evaluate feedback effects after an IBO success. A strong parent brand receives less positive feedback in success, regardless of its role as host or ingredient. This part of our general hypothesis is clearly confirmed.

For the failure condition, both studies present results suggesting that our logic may be incomplete as currently stated; we show unexpected findings in the case of the IBO composed of a strong host brand and a weak ingredient brand. We consistently found across studies and contexts that the strong ingredient suffers less than a strong host brand when an IBO fails. However, the level of initial strength has little influence on the negative feedback for the other type of IBO, composed of a strong host and a weak ingredient. For this type of asymmetric IBO, both weak and strong parent seem to suffer the same. In order to better understand this result, we developed a third study that further examines the failure condition.

## 5 Study 3

Study 3 aims (1) to further examine the feedback difference in the failure condition when the IBO is composed of asymmetric parent brands, (2) to replicate the results in the failure condition in a new IBO context (i.e., shampoo and moisturizer), and (3) to clearly identify the current attribution process. If consumers attempt to determine fault for a failed IBO, then perceptions of perceived responsibility should mirror negative feedback

effects, such that the brand deemed less responsible for the failure—in our case, the strong ingredient—should receive lesser punishment.

Based on the results of studies 1 and 2, the level of initial strength is not the only cue used by consumers to evaluate the level of negative feedback when an IBO fails. Consistent with past literature that consider actors' social roles as an additional cue to determine responsibility (Hamilton 1978), our findings suggest that consumers also use the parent role as a diagnostic cue to assign responsibility and punishment. Adding to our explanation for the success condition, we argue that consumers use *both* cues—parent role and brand strength—as they devote more effort to processing a negative event such as a failed IBO (e.g., Ganzach and Karsahi 1995). So, we refine our logic for the failure condition to formally include a "partner role effect"—the combined effect of partner role and initial brand strength will determine which parent brand receives less negative feedback under IBO failure.

Specifically, we argue that consumers may assign additional responsibility to the host for the failure because it is perceived to be the leader of the IBO. Many examples support the view that actors in leadership roles get more blame than regular actors (Fincham and Jaspers 1980). For instance, CEOs are typically viewed as responsible for the decisions made by organizations, and they can expect to be more severely punished after a mistake (Gibson and Schroeder 2003). Legal statutes have also specified that leaders could be held responsible for the acts of others in the organization (Gibson and Schroeder 2003). In sum, evidence in the attribution literature states that people assign higher blame to leaders even if they are not directly accountable for the failure.

Using this argument in our context, we expect that the strong ingredient should suffer less negative feedback (in absolute terms) when an IBO fails. This specific parent brand is protected from the damages of a failure by two key considerations: its initial strong reputation and its perceived limited leadership role in the failed IBO. Accordingly, it should be viewed as the least responsible for failure among all the parent brands. This prediction differs from that for the IBO composed of a strong host and a weak ingredient. For this IBO, the strong host may be viewed as the "leader" of the IBO, and therefore will be deemed more responsible for the failure, in spite of its strength. So it should shoulder a relatively high level of responsibility for failure, and receive negative feedback similar to its partner, the weak ingredient. Formally, for a "weak host-strong ingredient" IBO, we hypothesize that a strong ingredient would experience less negative feedback than a weak host. However, the buffering effect of a strong brand will disappear for a "strong host-weak ingredient" IBO: the strong host and the weak ingredient should experience similar level of negative feedback.

### 5.1 Design, procedures, and manipulation checks

Because only the failure condition was tested, there is no outcome factor. Therefore, the design is a 2 (asymmetric IBO)×2 (parent evaluation) mixed experimental design. Apart from the deletion of the success condition, the rest of the procedures are identical to study 1. In terms of dependent variables, we also added two items that capture the perceived responsibility of the host and the ingredient on a scale ranging from not at all responsible (1) and totally responsible (9). These items are: "to what extent was (HOST) brand responsible for the observed outcome in the news article," and "to what extent was (INGREDIENT) brand responsible for the observed outcome in the news article."

Study 3 focuses on the shaving cream product category with a branded moisturizing ingredient. A pretest was performed to select high and low strength brand names with the usual strength scales. Results revealed Edge Gel ($M$=6.03) as the strong host, Barbasol ($M$=4.26) as the weak host, Neutrogena ($M$=7.34) as the strong ingredient, and Suave ($M$=5.06) as the weak ingredient.

Eighty subjects from an online panel participated in this experiment. In the first IBO, the strong host was rated significantly higher than the weak ingredient ( $M_{\text{strong host}} = 7.13 > M_{\text{weak ingredient}} = 5.54$; $t(44) = 9.27$; $p$ ). In the second IBO, the weak host was rated significantly lower than the strong ingredient ($M_{\text{weak host}} = 5.91 < M_{\text{strong ingredient}} = 7.90$; $t(34) = -9.89$; $p$ ). Thus, the brand strength asymmetry manipulation check was confirmed. Figure 3a displays the key results.

## 5.2 Results

We performed a 2 (asymmetric IBO)×2 (parent evaluation) mixed ANOVA, and the two-way interaction was significant ($F$(1, 78)=20.20; $p$<0.01). Mirroring studies 1 and 2 for the failure condition (see Fig. 3), the strong ingredient received lesser negative feedback, in absolute terms, than the weak host ( $M_{\text{strong ingredient}} =$

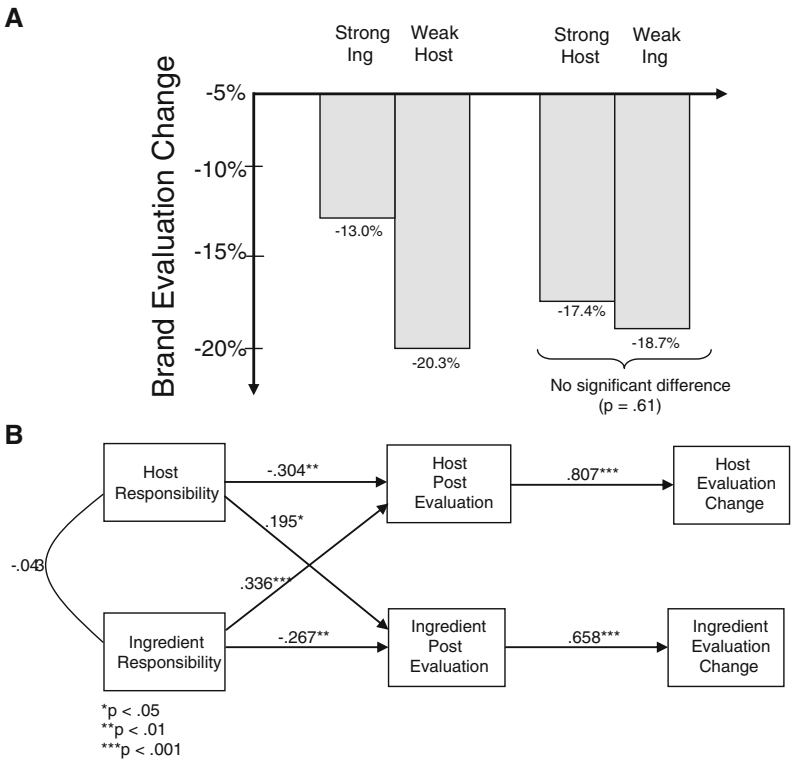


**Fig. 3** The impact of brand asymmetry on feedback effects (study 3: shaving cream) for the failure condition

$|-12.95\%| < M_{\text{weak host}} = |-20.27\%|$, $t(34) = 3.13$; $p$ ), which is supportive of our new hypothesis. We also find, consistent with our prediction, that the strong host experiences as much negative feedback as the weak ingredient ( $M_{\text{strong host}} = |-17.41\%| \approx M_{\text{weak ingredient}} = |-18.77|$, $t(44) = 0.51$; $p = 0.61$ ) when the IBO fails. In sum, study 3 fully supports our newly developed hypothesis.

### 5.3 Process evidence

We aim to gain a better understanding of the process by examining the effects of the manipulations on the perceived responsibility of the host and the ingredient. In the IBO in which the ingredient has more initial strength than the host, the ingredient is less responsible for the failure than the host ( perceived responsibility : $M_{\text{strong ingredient}} = 5.20 < M_{\text{weak host}} = 6.54$, $t(34) = 3.28$; $p < 0.01$). In addition, when comparing the two types of ingredients, we observe that the strong brand is less responsible than the weak one ($M_{\text{strong ingredient}} = 5.20 < M_{\text{weak ingredient}} = 7.33$, $t(78) = 5.31$; $p < 0.001$); whereas the hosts are equally responsible, regardless of their initial strength ($M_{\text{strong host}} = 5.98 < M_{\text{weak host}} = 6.54$, $t(78) = 1.25$; $p = 0.21$). Finally, when we compared the levels of responsibility with the neutral value 5, the score associated with the strong ingredient (5.20) is the only value equivalent to this mark ($p$=0.54). The values of the three other possible IBO parents are associated with greater perceived responsibility than the neutral midpoint (all $p$ values<0.01), a set of results that suggests that all other conditions are perceived as responsible, to some extent, for the failure of the IBO. As a whole, these results are consistent with our contention that the strong ingredient is the parent brand that is viewed as the least responsible for a failure.

We also performed a path analysis to understand how responsibility is linked to the changes in brand evaluation (see Fig. 3b). For both the ingredient and the host, their respective responsibility negatively affects their post-IBO evaluation ($\beta_{\text{host}}$=−0.304; $t$=−3.01; $p$<0.01; $\beta_{\text{ingredient}}$=−0.267; $t$=−2.48; $p$<0.01), which in turn is a key factor determining their overall evaluation change or feedback ($\beta_{\text{host}}$=0.807; $t$=12.08; $p$<0.001; $\beta_{\text{ingredient}}$=0.658; $t$=7.72; $p$<0.001). It should be noted that the perceived responsibility of the ingredient is unrelated to that of the host ($r$=−0.043; $p$=0.70). These results are consistent with attribution theory: the more a parent (host or ingredient) is deemed responsible for a failure, the more negative is its post-IBO evaluation and feedback.

In terms of novel results, we find that the responsibility of one of the parents has a *positive* effect on the post-IBO evaluation of the other parent. For instance, the level of responsibility of the ingredient has a positive effect on the host post-IBO evaluation ($\beta$=0.336; $t$=3.32; $p$<0.001), and a similar effect is found in the path "host responsibility→ingredient post evaluation" ($\beta$=0.195; $t$=1.81; $p$<0.05). These results indicate that, for instance, the post-IBO evaluation of the host is more favorable when the ingredient is perceived to be responsible for the IBO failure, and vice versa.

### 5.4 Discussion of study 3

In a new context, a shampoo augmented by a branded moisturizer, we find that when the ingredient parent is stronger than the host, the strong ingredient suffered from less negative feedback because it is viewed as less responsible for the failure than the

weak host. We also confirm that a strong host experiences the same decrease in brand evaluation as the weak ingredient, a result that is supported in three contexts.

Overall, our assessment of the responsibility scores reveals that the strong ingredient is viewed as the least responsible for the occurrence of a failure. All the other possible parent brands are associated with higher scores, which suggest that they all share some responsibility for the occurrence of the failure. It is important to highlight that the strong host is not particularly protected from the inconvenience of a failure despite its stronger brand position: it shares the same level of responsibility as the weak host, and its responsibility score is higher than the midpoint of the scale. Here, we speculate that the strong host does not enjoy a "protection" advantage because it is viewed as playing a leadership role in the IBO. As a result, it can be blamed to a greater extent for the failure.

Our path analysis also sheds new light on the process of negative feedback formation. We find that the evaluation of a given parent (host or ingredient) is strongly but also differently conditioned by two types of responsibility: their own vs. that of their partner. On the one hand, their evaluation is negatively conditioned by their level of responsibility, a logic that is well established. On the other hand, their evaluation is positively conditioned by the level of responsibility of their IBO partner. This result is interesting because it shows that customers account for two types of responsibilities that seem to compete in the formation of evaluation judgments.

## 6 Discussion

This paper addresses three gaps in the IBO literature: (1) the impact of IBO failure, (2) the effect of the initial brand strength asymmetry, and (3) the influence of parent brand role (only in a failure context) on feedback effects. These issues are important as failure and initial brand strength asymmetry are likely scenarios in the marketplace.

Our most noticeable contribution concerns the impact of initial parent brand strength asymmetry when the IBO fails. Essentially, we found a different pattern for the formation of negative (IBO failure) vs. positive feedback (IBO success). When an IBO succeeds, the initial brand strength fully explains the positive feedback: weak parents gain more than strong parents. With an IBO failure however, the weak parent brand incurs more negative feedback than its stronger partner *only* if the strong brand is the ingredient. When the strong brand is the host, negative feedback is equal for both parents. This suggests that brand strength and parent role both need to be considered when an IBO fails.

Because the host can be construed as the leader of the IBO, its strength does not protect it under the failure condition. This differs from the strong ingredient, which is somewhat protected from the effects of a failed IBO. We find this pattern across three different product contexts, and it is also supported by our examination of perceived failure responsibility. The strong ingredient is perceived as less responsible for the failure compared with other types of IBO parents (i.e., weak ingredient and weak host). Thus, IBO failure is more hazardous for a strong host compared with a strong ingredient.

Our assessment of the effects of perceived responsibility on the formation of negative feedback also reveals an interesting mechanism with two competing routes.

As expected, the perceived responsibility of a given parent has direct negative impact on its evaluation and level of feedback. However and surprisingly, the responsibility of an IBO parent also has a significant and positive effect on the other brand's feedback. In other words, the more a parent is viewed as responsible and can be blamed for the failure, the less the other parent will suffer from negative feedback.

With regard to advice for managers, we demonstrate that IBO failure has significant implications. Ingredient branding is not risk free and immune to failure. Thus, firms should be judicious in the development and management of IBOs and account for payoffs and risks. Among strong brands, our work indicates that an IBO is riskier for hosts. This type of parent brand can be disproportionately punished post-failure, as its brand strength advantage seems to disappear. Weak brands also stand to be punished significantly for a failure. This is particularly disconcerting because weak brands may not possess the resources to withstand a failed effort.

In a successful IBO, the potential payoffs depend on its relative position to the other parent. The weak brand stands to gain much more than strong partners, regardless of the parent role. It should be noted that strong parents can still benefit from a successful IBO strategy, although their gains would be much more modest.

Considering success and failure together, we recommend that managers perform a return vs. risk assessment before engaging in an IBO strategy. Put simply, this strategy is a "low-return low-risk" strategy for a strong ingredient. For this specific parent, both potential gains and losses are relatively limited across contexts. In turn, an IBO strategy is a "high-risk low-return" strategy for a strong host, and accordingly, this strategy should be rarely used for this specific parent, which has much to lose from a failure and little to gain from a success. Finally, for both weak brands (i.e., host or ingredient) an IBO represents a "high-return high-risk" strategy, and it could be considered if the chance of IBO success overwhelms that of a failure. Indeed, we find that weak brands can gain much from a success but also lose much from a failure.

Our path analysis also reveals straightforward implications for managers. Basically, brand managers can use two different strategies to reduce their level of negative feedback. First, they need to provide information that indicates the limited responsibility of their brand in the failure. Second and because of the presence of a competing route, their brand will be better evaluated if they are successful at blaming their partners for what happened. Based on our results, both strategies would yield a similar level of success and can be independently applied.

**Acknowledgments** The authors thank the Washington State University Department of Marketing, Kelly D. Martin, Pingsheng Tong, Jeffrey Joireman, and Brian Gillespie for their assistance and valuable comments on previous drafts of this manuscript.

## References

Aaker, D. A. (1991). *Managing brand equity.* New York: Free Press.

Aaker, D. A., & Keller, K. L. (1990). Consumer evaluations of brand extensions. *Journal of Marketing, 54*(1), 27–41.

Ahluwalia, R., & Gurhan-Canli, Z. (2000). The effects of extensions on the family brand name: an accessibility-diagnosticity perspective. *Journal of Consumer Research, 27*(3), 371–381.

Alba, J. W., & Hutchinson, J. W. (1987). Dimensions of consumer expertise. *Journal of Consumer Research, 13*(4), 411–454.

Allred, K. G. (1999). Anger driven retaliation: Toward an understanding of impassioned conflict in organizations. In R. J. Bies, R. J. Lewicki, & B. H. Sheppard (Eds.), *Research on negotiations in organizations* (pp. 27–58). Greenwich: JAI Press.

Balachander, S., & Ghose, S. (2003). Reciprocal spillover effects: a strategic benefit of brand extensions. *Journal of Marketing, 67*(1), 4–13.

Barone, M. J., Miniard, P. W., & Romeo, J. B. (2000). The influence of positive mood on brand extension evaluation. *Journal of Consumer Research, 26*, 386–400.

Bettman, J. R., & Sujan, M. (1987). Effects of framing on evaluation of comparable and noncomparable alternatives by expert and novice consumers. *Journal of Consumer Research, 14*(2), 141–154.

Broniarczyk, S. M., & Alba, J. W. (1994). The importance of the brand in brand extension. *Journal of Marketing Research, 31*(2), 214–228.

Crant, J. M., & Bateman, T. S. (1993). Assignment of credit and blame for performance outcomes. *Academy of Management Journal, 36*(1), 7–27.

Dawar, N., & Pillutla, M. M. (2000). Impact of product-harm crises on brand equity: the moderating role of consumer expectations. *Journal of Marketing Research, 37*(2), 215–226.

Desai, K. K., & Keller, K. L. (2002). The effects of ingredient branding strategies on host brand extendibility. *Journal of Marketing, 66*(1), 73–93.

Fazio, R. H. (1986). How do attitudes guide behavior? In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition* (pp. 204–243). New York: Guilford Press.

Fazio, R. H. (1989). On the power and functionality of attitudes: The role of attitude accessibility. In A. R. Pratkanis, S. J. Breckler, & A. G. Greenwald (Eds.), *Attitude structure and function* (pp. 153–179). Hillsdale: Erlbaum.

Fincham, F. D., & Jaspers, J. M. (1980). Attribution of responsibility: From man the scientist to man as lawyer. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (pp. 81–138). San Diego: Academic.

Ganzach, Y., & Karsahi, N. (1995). Message framing and buying behavior: a field experiment. *Journal of Business Research, 32*(1), 11–17.

Gibson, D. E., & Schroeder, S. J. (2003). Who ought to be blamed? The effect of organizational roles on blame and credit attributions. *International Journal of Conflict Management, 14*(2), 95–117.

Hamilton, V. L. (1978). Who is responsible? Toward a social psychology of responsibility attribution. *Social Psychology, 41*(4), 316–328.

Hamilton, V. L., Blumenfeld, P. C., & Kushler, R. H. (1988). A question of standards: attributions of blame and credit for classroom acts. *Journal of Personality and Social Psychology, 54*(1), 34–48.

Herr, P. M., Kardes, F. R., & Kim, J. (1991). Effects of word-of-mouth and product-attribute information on persuasion: an accessibility-diagnosticity perspective. *Journal of Consumer Research, 17*(4), 454–462.

Homburg, C., Hoyer, W., & Koschate, N. (2005). Customers' reactions to price increases: do customer satisfaction and perceived motive fairness matter? *Journal of the Academy of Marketing Science, 33*(1), 36–49.

Johnson, E. J., & Russo, J. E. (1984). Product familiarity and learning new information. *Journal of Consumer Research, 11*(1), 542–550.

Keller, K. L., & Aaker, D. A. (1992). The effects of sequential introduction of brand extensions. *Journal of Marketing Research, 29*, 35–50.

Keller, K. L., & Sood, S. (2003). Brand equity dilution. *MIT Sloan Management Review, 45*(1), 12–15.

Lehmann, D. R., Keller, K. L., & Farley, J. U. (2008). The structure of survey based brand metrics. *Journal of International Marketing, 16*(4), 29–56.

Loken, B., & John, D. R. (1993). Diluting brand beliefs: when do brand extensions have a negative impact? *Journal of Marketing, 57*(3), 71–84.

Milberg, S. J., Park, C. W., & McCarthy, M. S. (1997). Managing negative feedback effects associated with brand extensions: the impact of alternative branding strategies. *Journal of Consumer Psychology, 6*(2), 119–140.

Park, C. W., Jun, S. Y., & Shocker, A. D. (1996). Composite branding alliances: an investigation of extension and feedback effects. *Journal of Marketing Research, 33*(4), 453–466.

Ratneshwar, S., Shocker, A. D., & Stewart, D. W. (1987). Toward understanding the attraction effect: the implications of product stimulus meaningfulness and familiarity. *Journal of Consumer Research, 13*(4), 520–533.

Rodrigue, C. S., & Biswas, A. (2004). Brand alliance dependency and exclusivity: an empirical investigation. *The Journal of Product and Brand Management, 13*(7), 477–487.

Romeo, J. B. (1991). *The Effect of Negative Information on the Evaluations of Brand Extensions and the Family Brand.* Paper presented at the Association for Consumer Research, Provo, UT

Simonin, B. L., & Ruth, J. A. (1998). Is a company known by the company it keeps? Assessing the spillover effects of brand alliances on consumer brand attitudes. *Journal of Marketing Research, 35*(1), 30–42.

Swaminathan, V., Fox, R. J., & Reddy, S. K. (2001). The impact of brand extension introduction on choice. *Journal of Marketing, 65*, 1–15.

Vaidyanathan, R., & Aggarwal, P. (2000). Strategic brand alliances: implications of ingredient branding for national and private label brands. *The Journal of Product and Brand Management, 9*(4), 214–228.

Venkatesh, R., & Mahajan, V. (1997). Products with branded components: an approach for premium pricing and partner selection. *Marketing Science, 16*(2), 146–165.

Voss, K. E., & Gammoh, B. S. (2004). Building brands through brand alliances: does a second ally help? *Marketing Letters, 15*(2/3), 147–159.

Votolato, N. L., & Unnava, H. R. (2006). Spillover of negative information on brand alliances. *Journal of Consumer Psychology, 16*(2), 196–202.

Washburn, J. H., Till, B. D., & Priluck, R. (2000). Co-branding: brand equity and trial effects. *Journal of Consumer Marketing, 17*(6/7), 591–604.

Weiner, B. (1986). *An attributional theory of motivation and emotion*. New York: Springer.

Zhang, S., & Sood, S. (2002). Deep and surface cues: brand extension evaluations by children and adults. *Journal of Consumer Research, 29*, 129–141.