Ingredient Branding and Induced Brand Perception for Host Brands: A Study from the Food Product Category

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Abstract
Brand Managers constantly scout for strategies to differentiate their brands against competitors in the intensely fought consumer's mind-space. In this paper, we study the potential and efficacy of Ingredient Branding in helping Brands Managers to build differentiation by improving brand perception in consumer's minds. We study the cream-filled cookies product category to investigate the influence of an international and a regional ingredient brand on three host brands that have diverging initial brand perceptions (high, moderate, and poor) among customers. The results are drawn on a sample of 289 respondents who answered questions based on initial brand perception of the host brands, and induced brand perception, after the adoption of an ingredient brand. The results indicate a significant role of ingredient brands in shaping brand perception for host brands. Implications are drawn from the results, and future research directions are discussed.
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1. Introduction
Brands continuously seek sources of competitive advantage to not only differentiate themselves from competitors (Kapferer, 2008; Day & Wensley, 1988) , but also to internalize

a positive evolution in brand identity (Khan & Panwar, 2019), that can help them create conducive brand image for themselves (2001). Day and Wensley (1988) pointed out several sources of competitive advantage including the brand itself. However, a static brand may not accrue a competitive advantage for long and may require upgrades and makeovers (Khan & Panwar, 2019; Levin, Davis, & Levin, 1996; Aghazadeh, 2015).

Strategic brand alliance is seen as a potent brand enrichment strategy by experts as it adds to the brand strength without incurring extensive costs and risks (Blackett & Board, 1999; Hultman, 2002; Decker & Baade, 2016). These brand alliances are approached with an expectation that the alliance would enhance the value of the combined brand entity (Rao & Ruekert, 1994).

Ingredient Branding as a strategic brand alliance has been recognized by brands as a means to enhance their brand equity while building long-term collaborative partnerships with one or more ingredient brands (Panwar & Khan, Ingredient Branding as a Branding Strategy for News Channels in India, 2019). Desai and Keller (2002) defined Ingredient Branding as a co-branding strategy in which key attributes of one brand, the ingredient brand, are incorporated into another brand, the host brand, as ingredients. For example an Intel chip in a Dell computer, or Shimano gears in a Trek bicycle (Radighieri et al., 2014).

From the communication point of view, Ingredient Branding is defined as a branding strategy where an ingredient brand is promoted to the end customer, with or without the host brand (Chandler & Beuk, 2007). Through Ingredient braning, the host brand expects to enrich its brand image and increase its brand equity as an outcome of capitalizing on the already established brand equity of the ingredient brand (Radighieri et al., 2014).

Brands play a critical role in shaping consumer perception and brand choices for food products (Kathuria & Gill, 2013), and thus more food products than ever are being branded by food marketers to gain consumer's share of mind and wallet. Food products with higher brand equity are known to be preferred by customers, as these brands can form favorable associations that make customers confident about their purchase decision (Ponnam et al., 2015). This, in turn, not only gives the brand a competitive advantage, but also makes for a compelling reason for the brands to charge premium from the customers (Keller & Lehmann, 2006). Thus it comes as no surprise that food marketers are investing a significant amount of financial and intellectual efforts in enhancing the brand equity of the food products (Fernández-Barcala & González-Díaz, 2006).

Food marketers have tried to adopt Ingredient Branding as a means to enrich their brand, and extant literature has discussed these endeavors. However, the effectiveness of Ingredient Branding for food products has been described as ambiguous and requires further clarification (Besharat, 2010; Costa & Jongen, 2006). Further, the focus of these researches has been on comparing the impact of two-ingredient brands for their presence in a single host brand.

This often leaves out a very important aspect of priori- brand perception for the host brand, when compared with competitor host brands, and their respective combination of ingredient brands. Thus, this study aims at investigating the differential impact of different ingredient brands on multiple competing host brands in the cream-filled cookies food category. The ingredient chosen for this study are the milk and milk solids that are key ingreients for the cream used for cream biscuits. The experiment is conducted on a hypothetical scenario, as

customers are not aware of the real milk/milk solid ingredients in the host biscuit brand as of now, since these are not presently promoted. Howeve, this lack of awareness is useful since it also takes care of the ambiguity around the ingredient (cream) in cream-filled cookies being made from vegetable oils for cream instead of milk solids (ToI, 2020).

Further, the existing studies on adoption of ingredient brands in food segment have predominantly been undertaken in the North American and European markets which have distinct food and consumption habits, when compared to South Asian or Indian markets in specific. The approach adopted for this research is analogous to previous studies (Abbo, 2005; Vaidyanathan & Aggarwal, 2000; Ponnam, Sreejesh, & Balaji, 2015) where the influence of the presence of an ingredient brand on the host brand attributes was tested.

The originality of this study lies in the measurement of brand perception for different hosts brands on a three point scale of 'Highly perceied', 'Moderately perceived', and 'Poorly perceived'. Further, the ingredient brands have been deliberately chosen as an international and a regional brand to assess the diverging impact of the two brands.

2. Literature Review

2.1 Ingredient Branding

While Desai and Keller gave one of the most accepted definitions of Ingredient Branding, several other researchers have extended the definition to incorporate the changing dynamics of branding strategies and scope of Ingredient Branding.

Table 1 discusses all these definitions around different themes for Ingredient Branding as proposed by various researchers:

No.	Theme	Ingredient Branding Definition	Authors
1.	Key attributes	Incorporation of key attributes of one brand (ingredient brand) into another brand(host brand)	(Desai & Keller, 2002)
2.	Licensing pre-established Brand Equity	Ingredient Branding is licensing another brand to borrow and leverage the pre-established brand equity of the ingredient's brand	(Aaker & Joachimstahler, 2000)
3.	Supplier Promotion	Strategy through which a supplier promotes ingredients to the end-user directly to build an ingredient brand	(Norris, 1992)
4.	Branding Policy (Brand Identity)	Ingredient Branding is a branding policy concerning an ingredient or component that has its own brand identity included in a host brand	(Kotler & Pfoerstch, 2010)
5.	Cooperative Arrangement	Two brands to enter into a cooperative arrangement to increase market competitiveness	(Simonin & Ruth, 1998)
6.	Product Enrichment	Unlike co-branding, the aim is not to introduce a new product but to enrich the existing product	(Swaminathan, Reddy, & Dommer, 2012)
7.	Product Design	Based on cooperation for designing and signing the product	(Michel & Cegarra, 2003)
8.	Product Definition	Ingredient Branding has a product defining role since its presence adds to the definition of the host brand due to the presence of ingredient brand	(Uggla & Filipsson, 2008)
9	Differentiation	To differentiate the host brand from its competitor, while eventually making ingredient brand as a point of parity	(Panwar & Khan, 2020)

10.	Cost-reduction	Ingredient Branding is used to help reduce marketing costs for a host brand through long-term strategic planning	(Uggla & Filipsson, 2008)
11.	Market penetration	Ingredient Branding is a strategy to achieve greater market penetration in an existing marketing segment	(Leuthesser, Kohli, & Suri, 2003).
12.	Bundled Offering	Ingredient Branding is a strategy to offer consumers products bundled with branded components	(Rao & Ruekert, 1994)

Table 2-1 Ingredient Branding Literature

Ingredient brand has been known to have a positive impact on the host brand when a well-known ingredient brand is hosted by a brand (Levin, Davis, & Levin, 1996). While some researchers have contended that a mere presence of a known ingredient brand in the host brand would lead to a favorable association with the host brand, these findings have been contrasted by Panwar and Khan (2020) and Venkatesh and Mahajan (1997).

Similarly, McCarthy and Norris (1999) posited that customers perceive a moderate quality host brand more favorably when a high-quality branded ingredient is used as an ingredient. It was in his context that Radighieri et al. (2014) argued that several factors may influence the evaluation of the host brand due to the presence of an ingredient brand in it. The host brand's, and the ingredient brand's strength, and how well they complement each other have been considered to be of utmost importance. However, adopting Ingredient Branding can also entail some risks (Blackett & Board, 1999). Simonin and Ruth (1998) argued that brand alliances have a spill-over effect on the host brand. Thus such an alliance could negatively impact the customers' attitudes toward host brand preference and purchase decisions.

2.2 Branding for Food Products

More food products than ever are being branded today. Branding of food products is adopted to shape positive consumer perception about the brand, to influence consumer's choice in the brand's favor (Ponnam et al., 2015). Food branding is adopted to create a recognizable image for the brand to differentiate itself from others while attracting consumers with a favorable brand image (Keller, et al., 2012). Ponnam et al. (2015) argued that there is an empirical demonstration that proves that ingredient brand strategy can help a host brand increase its market share.

In the food industry, the brand image thus projected by the food marketers has become a strategic tool in creating a distinct positioning for the brand as well as for the firm. This in turn created the possibility of building customer loyalty and positive purchase decisions, which is key for the food marketers in an intensely competitive market (Mokrzycka, 2011). Anselmsson et al. (2014) in their study on the branding of food products also found that a positive brand image of a food product indicates better quality for customers.

This adds to the predictability of the product's performance, and also makes price premium acceptable. Brand cue is also known to add to the familiarity of the product which helps build trust in the brand leading to brand loyalty (Tan et al., 2011). Branding has also been an important tool in communicating the offering that a food product has, and can create distinct choices for the customers (Chrysochou, 2010). Using the origin of the food product that

invokes local and cultural associations has been often used for branding of food products. Tellström et al. (2006) discussed this in their research which has been extended to branded components in the core food product through Ingredient Branding.

Thus a local component or ingredient could add to the favorable brand perception for the host brand through a cultural association. This is crucial for food products, which can incorporate ingredients that have a positive association with the customers due to their origin or geographical indicator(GI) (Seal & Piramanayagam, 2018). Thus presence of a regional or local ingredient brands can add to the brand's trust and loyalty.

Thus the use of Ingredient Branding in western markets for food products has been fairly common (Bhaskaran, 2006; Rodrigue & Biswas, 2004). Swaminathan et al. (2012) contended that the success of brands such as Nutrasweet can be attributed to the ingredient brand strategy. An efficient Ingredient Branding strategy for food products can be carved out through chosen ingredients. Food marketers would do well if they can understand the nature and determinants of factors dominating Ingredient Branding strategy, as they can choose the right ingredients and respective ingredient brands that would build a competitive advantage around the food brand (Ponnam et al., 2015).

3. Hypothesis Development

3.1 International and Regional Ingredient Brands

Regional brands have had a fair share of struggles and triumphs over international brands in differetn food segments. Regional products often pack a punch due to their intimate understanding of local culture and consumer behavior, which helps them get an edge on the core offering part of the product (Hankinson, 2005). This coupled with the ability to understand the innate social structure and relationships in the community makes them a strong competition to the international brands (Kaufmann & Durst, 2008). However, Vaidyanathan and Aggarwal (2000) argued that alliance with a national or international brand would often lead to more favorable associations.

Thus, it would be of interest to asses if there are any significant differences in brand perception based on multiple attributes for an international and a regional brand for an ingredient like milk or milk solids, which are an important part of cream-filled cookies. Thus,
H1: There is no significant difference in consumer brand perception attributes for an international and a regional ingredient brand

3.2 Differentiating Influence of Ingredient Brands on a Differently Rated Host Brands

Vaidyanathan and Aggarwal (2000) demonstrated through their research that the association of an ingredient brand can have a positive impact on consumer evaluations if the product is unfamiliar. McCarthy and Norris (1999) also emphasized that consumer evaluation of a moderate-quality host brand would be more favorable with a high-quality ingredient brand, as compared to a high-quality ingredient brand. A similar set of experiments conducted by Simonin and Ruth (1998) led to the conclusion that Ingredient Branding influences the evaluation of host brands, while Abbo's (2005) work showed that it may not always lead to a positive evaluation, and may even lead to negative evaluations at times. Apart from the fact that these studies have contrasting results, the commissioning of all these studies in North American and European markets also restricts the applicability of the studies in the Indian

context. Thus, it would be worthwhile to test the hypothesis around the influence of different types of ingredient brands (international and regional) on different host brands with varying initial brand perception ratings. Thus,

H2a: The presence of an international ingredient brand in a highly perceived/rated host brand does not significantly change the host brand evaluation favorably

H2b: The presence of a regional ingredient brand in a highly perceived/rated host brand does not significantly change the host brand evaluation favorably

H2c: There is no significant difference in a highly perceived/rated host brand's evaluation due to the presence of an international, or a regional ingredient brand

H3a: The presence of an international ingredient brand in a moderately perceived/rated host brand does not significantly change the host brand evaluation favorably

H3b: The presence of a regional ingredient brand in a moderately perceived/rated host brand does not significantly change the host brand evaluation favorably

H3c: There is no significant difference in a moderately perceived/rated host brand's evaluation due to the presence of an international, or a regional ingredient brand

H4a: The presence of an international ingredient brand in a poorly perceived/rated host brand does not significantly change the host brand evaluation favorably

H4b: The presence of a regional ingredient brand in a poorly perceived/rated host brand does not significantly change the host brand evaluation favorably

H4c: There is no significant difference in a poorly perceived/rated host brand's evaluation due to the presence of an international, or a regional ingredient brand

Finally, while the influence of the presence of an ingredient brand in a host brand is critical for making marketing decisions, it is also important to look at these influences across different brands, and not just for an individual brand in isolation. Thus, the differentiating influence of the same ingredient brand on different host brands with varied brand perceptions in a group can be helpful to assess the true impact of Ingredient Branding strategy. This is especially important insce in real like, the customet is rarely presented with a single choice of host brand, and would always asses competing brands together before making a purchase decision.

H5: The presence of an ingredient brand does not change the evaluation of host brands with different intial brand perception

4. Research Design

The research aimed at understanding the influence of an international and a regional ingredient brand on the host brand evaluations for highly perceived, moderately perceived, and poorly perceived cream-filled cookies brands in India.

4.1 Pre-test

The pre-test conducted for the study sought to determine the familiarity of customers with various types of biscuits and major brands within the most preferred biscuit category. The respondent set was formed by randomly selecting university students out of a larger group of students who agreed for participating in the test and claimed to consume some of the other biscuits variant. The group had 52 respondents that comprised 32 males and 20 females.

Based on the current consumption trend of biscuits in India, five variants of biscuits were given to these students and they were asked to rate them based on their preference for consuming these biscuits on a scale of 1 to 5, with 1 as the lowest preference, and 5 as the highest preference. Based on their response on the preferred category of biscuits, they were guided to a next question that asked them to rate various brands corresponding to the category of the biscuit chosen. Thus, the most preferred biscuit type, and initial brand perception of the brands in each category were found. The most important ingredient in the biscuits was also found out through the pre-test.

The findings of this pre-test study showed that the cream-filled cookies were the most preferred category (M=3.61), t(52)=4.87, p=0.001. The cookies and glucose biscuits followed cream-filled cookies. Salt biscuits were the least preferred among the variants presented to the respondents. The independent sample t-test showed that the mean value for the cream-filled cookies preference was significant (p=0.001). Paired sample t-test conducted to check the difference of mean value for cream-filled cookies with other biscuit variants revealed a significant difference in all pairs suggesting that the cream-filled cookies had a significantly higher preference than any other biscuit variants presented to respondents.

Further, for cream-filled cookies, the perception was measured for cream-filled cookies brands as a rating out of 10, and it was found that Sunfeast Dark Fantasy (DF) had the highest positive perception (M=7.65), t(52)=3.02, p=0.004., while Parle Milano followed (M=7.03), while Lotte Choco had the lowest perception (M=6.17).). Paired sample t-test conducted to check the difference of mean value for three brands compared to each other's revealed that a significant difference existed in all pairs suggesting that Sunfeast cream-filled cookies had a significantly higher perception compared to the other brands, followed by Parle Milano, and Lotte Choco. Finally, all the ingredients were evaluated by the respondents on a scale of 1 to 5, where 1 denoted the least important ingredient in cream-filled cookies, and 5 denoted the most important ingredient in cream-filled cookies. The most important ingredient was found to be milk/milk solids with the help of an independent t-test (M=4.09), t(52)=9.60, p=0.001.

Thus for this study, to test the influence of an international and regional ingredient brand on three host brands with varying initial brand perception scores, the biscuit category chosen was cream-filled cookies.

The cream-filled cookies brands selected based upon their varying evaluation by customers on initial brand perception were – Sunfeast Dark Fantasy Choco Fills Cookies, or Sunfeast DF (High Perception), Parle Milano Centre Filled Cookies, or Parel Milano (Moderate Perception), and Lotte Choco Pie, or Lotte Choco (Lower Perception). The most important ingredient chosen was milk and milk solids that are used to make the cream for the cookies. For this study, two-ingredient brands were chosen for the given ingredient. Nestle's milk and milk solids were chosen as an international ingredient brand, while Aarey's milk and milk solids were chosen as a regional brand, since the study was being conducted in Mumbai, Maharashtra, where Aarey has a strong presence as a regional brand.

4.2 Main study

After choosing the biscuit category, associated brands, and the ingredient of importance, the main study was conducted to find out the influence of ingredient brands (for milk and milk solids) on the perception of the host brands (cream-filled cookies). As part of the main study, respondents were asked to rate eight attributes of biscuits on a five-point Likert scale that was

adapted from the scales by Espejel et al. (2009) measuring taste, quality, trust, and satisfaction for food products. The attributes that customers evaluated brands in this study were – Brand name, quality, taste, richness, packaging, trust, hygiene, and nutritional value. These attributes were also tested for the ingredient brands on the same scale.

4.2.1 Subject and Procedure

The final survey had qualification criterion on consumption of cream-filled cookies, and if they were aware of the three host brands brands, and two ingredient brands chosen after the pre-study. Thus, the final responses were eligible for the study. A total of 289 eleigible responses were received from different online groups where the survey was distributed. The respondents came from different age groups and income groups. The respondents predominantly came from the city of Mumbai in the Maharashtra region of India. About two-thirds of the respondents were male, while the remaining one-third were females. 58% of respondents were below 25 years of age. More than a third of all respondents were from the age group 25 years to 40 years, while about 8% were above 40 years of age.

A self-administered online questionnaire was used to obtain responses from the participants. The respondents were asked to present their evaluations about the host brands in terms of attributes that are judged for perceiving food products as defined by Espejel et al. (2009).

Further, the evaluations were also taken for the host brands with and without ingredient brands in them (Initial brand perceptions and induced brand perceptions). The influence of ingredient brands on host brands was tested by suggesting a collaboration between the host brands (Sunfeast Dark Fantasy Choco Fills Cookies, Parle Milano Centre Filled Cookies, and Lotte Choco Pie), with an international ingredient brand (Nestle), and a regional ingredient brand (Aarey) for a specific ingredient (milk and milk solids. Thus a 3 (host brands) x 2 (ingredient brands) matrix was formed for the respondents to present their brand evaluations.

4.2.2 Results

4.2.2.1 Food Brand Perception Attributes

The individual parameter ratings as adapted from the scale given by Espejel et al. (2009) for each of the three host brands, and two ingredient brands are given in the table (Table 2) below. The rating was on a scale of 1-7, where 1 represented the lowest perception and 7 represented the highest perception:

Attributes	Sunfeast DF	Parle Milano	Lotte Choco	Nestle	Aarey
Overall	*5.39*	*5.12*	*4.77*	*5.57*	*4.78*
Quality	5.61	5.16	5.01	5.69	4.98
Taste	5.73	5.20	4.96	5.55	4.96
Richness	5.41	5.06	4.76	5.49	4.69
Brand	5.38	5.40	4.71	5.83	4.61
Packaging	5.48	5.10	4.89	5.48	4.52
Trust	5.38	5.30	4.71	5.64	4.74
Hygiene	5.63	5.19	5.00	5.62	4.82

Table 2 Parameter-ratings for Host and Ingredient Brands

As seen in the table, the perception about the three host brands is in line with the perception found after the pre-test earlier. The Sunfeast DF was rated highest in all but one parameter (Brand name), and also had the highest overall perception for the respondents. For ingredient brands, Nestle as an international ingredient brand was rated higher than the regional ingredient brand, Aarey, on all parameters and in the overall rating too.

Further, the respondents were asked to choose the combination that they preferred most from three sets of options. The first set asked preference when Sunfeast Dark Fantasy is offered as is (with the current information that customers possess about the brand), when it is offered with Nestle's milk and milk solid ingredients, and when it is offered with Aarey's milk and milk solid ingredients. The second set had similar options with Lotte Choco Pie, and the third set had similar options with Parle Milano.

The frequency table (Table 3) reflects, that the preference for the host brand as is, is almost always better than a scenario where the host brand incorporates milk and milk solid ingredients from Aarey. That means, that the preference for the host brand falls when milk and milk solids ingredients are from Aarey. On the other hand, the preference increases significantly when the host brand incorporates Nestle as an ingredient brand for milk and milk solids.

	Sun--feast DF	Sun -feast DF & Nestle	Sun--feast DF & Aarey	Lotte Choco	Lotte Choco & Nestle	Lotte Choco & Aarey	Parle Milano	Parle Milano & Nestle	Parle Milano & Aarey
Quality	31%	57%	12%	30%	55%	15%	39%	47%	14%
Taste	32%	55%	13%	29%	53%	18%	31%	49%	20%
Richness	30%	54%	16%	22%	60%	18%	28%	52%	20%
Brand	26%	62%	12%	21%	63%	16%	32%	2%	16%
Hygiene	25%	59%	16%	22%	60%	18%	33%	50%	17%
Packaging	38%	50%	12%	26%	56%	18%	35%	47%	18%
Trust	24%	60%	16%	21%	60%	19%	34%	49%	17%
Nutrition	20%	57%	23%	18%	58%	24%	28%	46%	26%

Table 3: Parameter-ratings with Host and Ingredient Brand Combinations

4.2.2.2 Hypothesis Testing

To test the laid hypothesis, independent t-tests and paired samples t-tests were conducted. The test results with the hypothesis testing results are consolidated in the below table 4. H1 was rejected since the one-sample t-test suggested that not only the mean value for the two brands were found to be significantly different ($M_{Neslte}=7.87$; $M_{Aarey}=6.57$), Aarey's mean value was also below the test value of t=7($t(288)=-4.23$, $p=0.001$). Further, the paired samples test indicated a significant difference in the brand ratings for the two brands as perceived by the customers.

Paired sample tests conducted to test hypothesis H2 to H4 showed that the presence of an international ingredient brand, Nestle, for milk and milk solids increased the brand perception of all host brands, irrespective of their varied level of initial brand perception without the presence of the ingredient brand. However, for the higher perceived host brand, Sunfeast DF,

this improvement was not significant. Thus H2a (Sunfeast DF and Nestle) could not be rejected, while H3a (Parle Milano and Nestle) and H4a (Lotte Choco and Nestle) were rejected.

On the other hand, the presence of a regional ingredient brand, Aarey milk, and milk solids, actually lowered the brand perception of the host brand, instead of improving it. The decrease in the brand perception of the host brand was found statistically significant for all the three host brands.

Hence, while H2b (Sunfeast DF and Aarey), H3b (Parle Milano and Aarey), H4b (Lotte Choco and Aarey) were rejected due to the significant influence that the presence of the regional ingredient brand had on the host brand, this influence was negative in nature i.e. it hurt the host brand.

The differential impact of the international ingredient brand (Nestle) and the regional ingredient brand (Aarey), on differently perceived host brands, was tested for H2c (Sunfeast DF with Nestle and Aarey), H3c (Parle Milano with Nestle and Aarey), and H4c (Lotte Choco with Nestle and Aarey). There was a significant difference found in the influence that an international ingredient brand (Nestle) had on the host brand as compared to a regional ingredient brand (Aarey) on the host brand, and hence H2c, H3c, and H4c were rejected.

While H2 to H4 were tested for a single host brand and multiple ingredient brands, H5 tested multiple host brands and their perception among customers before and after, and the ingredient brand (Nestle) is added to the host brand. It was found that while the presence of Nestle as an ingredient brand improved the brand perceptions of all the three host brands, the improvement was found to be significant for Lotte Choco and insignificant for the other two host brands, Sunfeast DF and Parle Milano. Since the presence of the ingredient brand influenced different host brands differently, H5 was rejected.

No.	Hypothesis	Host Brand	Ingredient Brand	Paired Samples Test Result	Hypothesis Result
1	H1: Difference in the brand perception for an international and regional ingredient brand	-	Nestle and Aarey	Paired Diff: 1.291 t(288)=-11.78 p=0.001	H1 Rejected
2	H2a: Influence of an international ingredient brand on a highly perceived host brand	Sunfeast DF	Nestle	Paired Diff: -0.10 t(288)=-0.096 p=0.924	Failed to reject H2a
3	H2b: Influence of a regional ingredient brand on a highly perceived host brand	Sunfeast DF	Aarey	Paired Diff: 1.21 t(288)=-8.99 p=0.001	H2b Rejected
4	H2c: Difference in the influence of an international and regional ingredient brand on a highly perceived host brand	Sunfeast DF	Nestle and Aarey	Paired Diff: 1.22 t(288)=-10.02 p=0.001	H2c Rejected

5	H3a: Influence of an international ingredient brand on a moderately perceived host brand	Parle Milano	Nestle	Paired Diff: -0.45 t(288)=-3.21 p=0.001	H3a Rejected
6	H3b: Influence of a regional ingredient brand on a moderately perceived host brand	Parle Milano	Aarey	Paired Diff: 0.70 t(288)= 4.92 p=0.001	H3b Rejected
7	H3c: Difference in the influence of an international and regional ingredient brand on a moderately perceived host brand	Parle Milano	Nestle and Aarey	Paired Diff: 1.16 t(288)= 8.64 p=0.001	H3c Rejected
8	H4a: Influence of an international ingredient brand on a poorly perceived host brand	Lotte Choco	Nestle	Paired Diff: -0.59 t(288)=-4.88 p=0.001	H4a Rejected
9	H4b: Influence of a regional ingredient brand on a poorly perceived host brand	Lotte Choco	Aarey	Paired Diff: 0.58 t(288)= 4.92 p=0.001	H4b Rejected
10	H4c: Difference in the influence of an international and regional ingredient brand on a poorly perceived host brand	Lotte Choco	Nestle and Aarey	Paired Diff: -1.18 t(288)= 8.64 p=0.001	H4c Rejected
11	H5: Presence of an ingredient brand does not influence differently perceived host brands differently	Sunfeast DF Lotte Choco Parle Milano	Nestle	Paired Diff$_{Sunfest}$: -0.11 t(288)= -1.02 p=0.307 Paired Diff$_{Lotte\ Choco}$: -0.363 t(288)= -3.50 p=0.001 Paired Diff$_{Parle\ Milano}$: -0.10 t(288)= -1.04 p=0.298	H5 Rejected

Table 4: Hypothesis Testing Results

4.2.2.3 Discussion and Implications

The results from hypothesis testing shed light upon various outcomes on shifting brand perception for host brands due to the presence of an ingredient brand. The presence of an ingredient brand has been shown to have a definitive influence on the host brand in all cases

except one. When the host brand and the ingredient brand, both have a high brand perception (Sunfeast DF and Nestle Milk), while the host brand's perception is elevated, the result was not found to be statistically significant.

Apart from this one case, in all other scenarios, the presence of an ingredient brand on the host brand was found to cause influence that was statistically significant. The presence of Nestle Milk as an ingredient brand in the moderately perceived Parle Milano, and poorly perceived Lotte Choco led to elevated brand perception for both the host brands, which was also statistically significant.

However, an interesting finding from the study was, that the presence of an ingredient need not influence the brand perception of the host brand positively in all cases. The study showed that the influence in some cases can also be negative, where the presence of the ingredient brand brings down the perception of the host brand. In the study, the regional ingredient, Aarey Milk, influenced the host brands negatively, as all the host brands witnessed a dip in their perception rating from their initial brand perception, due to the presence of the Ingredient brand.

This is critical as it suggests that Ingredient Branding cannot be adopted without giving due thought to the choice of ingredient, and its impact on the host brand perception. The study also tested the influence of the presence of an ingredient brand on the host brands when they are not rated for brand perception in isolation, but in groups, where the customer rates brands when they are kept next to each other. The idea behind such a question was to observe the difference in perception in a real-life setting where multiple brands are present in front of the customer while making a purchase decision. The brand ratings for the host brands were found to be different when they were rated in isolation, as compared to when they were rated in groups, or when placed next to each other. It was found that when competing brands are present, customers are more generous towards the brands which were otherwise not rated so well. On the other hand, the host brand which was rated very high, dipped in its rating when other competing brands were brought into the context.

A paired samples test was conducted on the different ratings given by the respondents when asked about the brand perception, first for the brand alone, and second for the brand with other competing brands. Three major observations were made with the results. Firstly, the highest-rated brand individually, Sunfeast DF, was the only brand whose brand perception rating dipped when it was seen along with other competing brands, Parle Milano and Lotte Choco. Second, the lowest-rated brand, Lotte Choco, gained the most in terms of brand perception rating, when it is seen along with other competitors, as compared to a scenario when it is individually rated. The difference in the rating was also found to be statistically significant for the brand. Finally, Parle Milano, when seen along with other competitors, not only improved its rating, but the rating improvement was to an extent, that it was perceived to be marginally better than Sunfeast DF also with a condition. The condition was, that if Parle Milano has Nestle as ingredient brand, and Sunfeast DF does not have Nestle as an ingredient brand, it can pip Sunfeast DF in brand perception.. Thus, in this case, the ingredient brand Nestle can give Parle Milano an edge over otherwise dominant Sunfeast DF, only if Sunfeast DF does not have Nestle as an ingredient brand. These findings are especially important since in the real world setting, a customer hardly evaluates a single brand during the decision-

making. A customer will always look at a brand along with many other competing brands, and thus the consumer behavior could be different. The results are shown in the table 5:

Pair	Host Brand Perception Alone and in Group	Mean	Mean Difference	t-value	Sig. (2-tailed)
Pair 1	Sunfeast DF_Alone	7.20	0.09	0.70	0.48
	Sunfeast DF_Group	7.11			
Pair 2	Lotte Choco_Alone	6.22	-0.31	-2.46	0.01
	Lotte Choco_Group	6.53			
Pair 3	Parle Milano_Alone	6.7	-0.36	-2.68	0.01
	Parle Milano_Group	7.06			
Pair 4	Sunfeast DF_Nestle_Alone	7.21	-0.01	-0.06	0.95
	Sunfeast DF_Nestle_Group	7.22			
Pair 5	Lotte Choco_Nestle _Alone	6.81	-0.08	-0.64	0.52
	Lotte Choco_Nestle _Group	6.9			
Pair 6	Parle Milano_Nestle _Alone	7.15	-0.01	-0.05	0.96
	Parle Milano_Nestle _Group	7.16			

Paired Samples Statistics

Table 5: Alone and Group Perceptions of Host Brands

5. Conclusion

The research was aimed at understanding the influence of Ingredient Branding on a specific category of food products, biscuits. The research started with a pre-study followed by the main study on adoption of Ingredient brand and its influence on the host brand. The pre-test study was conducted to ascertain the category of biscuits most preferred by the respondents, the intial brand perception about brands from that category of biscuits, and the most important ingredients in the biscuits. Based on the pre-study, cream filled cookies were chosen as the product category, while milk & milk solids were chosen as the ingredient for choosing ingredient brands. The main study saw respondents indicating their perception on various parameters to judge food products as suggested by Espejel (2009), and also rating various host and ingredient brands on intial and induced brand perception. The study attempted to find influence of an international ingredient brand (Nestle), and a regional ingredient brand (Aarey) on three host brands with varying initial brand perceptions – Sunfeast Dark Fantasy (Highest brand perception), Parle Milano (Moderate brand perception), and Lotte Choco Chips (Lowest brand perception).

The results showed that the presence of an ingredient brand almost always influences the host brand's perception among customers. Key insights were found from the study on the nature of influence that the ingredient brands have on the host brands. In this study, Nestle was found to have a much higher brand perception as compared to the Aarey which is a regional brand. Further, the presence of Nestle as an ingredient brand influenced all the three host brands positively by elevating their brand perceptions score. However, the elevation was found to be statistically insignificant for the Sunfeast Dark Fantasy. This indicated a limited influence of the ingredient brand on a superior host brand, possibly due to already higher

expectations by the customers from the brand. For other host brands, the perception rose significantly suggesting a positive role of ingredient brands in shaping brand perception for the host brands.

However, it was also found that when an inferior or poorly perceived ingredient brand is adopted by a host brand, the brand perception rating for the host brands is influenced negatively. This was true for all host brands irrespective of their initial brand perception. It was also found out that when a customer looks at multiple host brands simultaneously, which is a real-life scenario, the otherwise high-rated host brand is rated a bit lower, and the other host brands are rated higher. A defining insight that came from this study was that a moderately perceived host brand can trump a highly perceived host brand with the help of an ingredient brand when the competing brand does not use the same ingredient brand.

Thus Ingredient Branding can be useful for certain brands in successfully challenging the dominant market brands, especially when the dominant brand does not adopt the same ingredient brand. The paper offers a handful of insights that can be exploited by managers and practitioners looking to differentiate their offerings and compete efficiently in the market. Ingredient Branding can be a credible strategy for managers to create a differentiation against competitors while adding to the brand perception among customers for their brands. However, the influence of Ingredient Branding must not be assumed to be a one way street, as a poor mix of ingredient brand with the host brand can also be detrimental for the host brand. Thus due process and considertation must be givent to such decisions while adopting Ingredient Branding.

6. Limitations and Scope for Future Research

This study is not without its limitations, and some of these are discussed here. Firstly, the study is focused on a specific segment in the food category which may not be extendible as is on other categories of products. Thus it would be worthwhile to extend this study to other non-food categories, and particularly high-involvement ones like automobiles, and personal electronics. The study was conducted with convenience sampling, and a majority of respodnents came from the age group of less than 40 years whch may have skewed the results to an extent. But this can offset from the fact, that this age group also represent a category with high consumotion and preferences for products like cream fille cookies. As for future research, the current study only focuses on the host brand. It would be interesting to see how Ingredeint Branding affects the involved ingredient brands, so as to establish a circle of spillovers between the host brand and ingredient brand. Furthermore, a comparative study between two product categories may present results that may be widely applicable to multiple categories of products. Lastly, the impact of more than one ingredient brand on the host brands could pave way for more studies on the extended application of Ingredient Branding.

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