The Impact of Rating Favorability on Purchase Intentions for Private Label Brands

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Abstract

The Impact of Rating Favorability on Purchase Intentions for Private Label Brands

Mithun Shrivastava

This research examines whether rating favorability for private label products impacts product attitude and purchase intentions. Three experimental studies provide converging evidence of an effect of rating favorability on purchase intentions for private label products that is fully mediated by product attitude. In the first experiment, our findings revealed a significant indirect effect of rating favorability on purchase intentions, completely mediated by product attitude; however, no significant pattern in direct effects or interactions involving rating frequency emerged. The second experiment established the robustness of first experiment's results, and provided support for generalizability of findings to a different brand and a new set of products associated with higher prices. The third experiment examined the moderating role of brand familiarity and product novelty; findings are consistent with experiment 1 and 2 outcomes, and revealed no significant direct or interaction effects. Thus, consumers' lack of motivation for information processing for low-involvement products leads them to the peripheral route of persuasion with reference to Petty and Cacioppo's Elaboration Likelihood Model. However, the finding that for consumer-packaged goods offered by private labels, rating frequency, brand familiarity, and product novelty do not influence consumers' purchase intentions is contrary to previous findings, especially involving experience products and established brands. The current research suggests that private labels are unique with reference to the direct and indirect effects of rating favorability on purchase intentions, and discusses theoretical and managerial implications. Future research into the generalizability of these findings to other product categories (e.g., apparel, electronic goods, etc.), and a comparison to national brands may be fruitful.

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Introduction

Private labels (e.g., Sam's Choice by Walmart, Kirkland Signature by Costco) "are brands owned, controlled, and sold exclusively by a retailer" (Raju, Sethuraman, & Dhar, 1995, p. 957), and are commonly known as store brands, "private brands, house brands, own brands, own label or retailer brands" (PLMA, 2014). The growth of these private label brands (PLBs) is clearly highlighted by their increasing market share (Nielsen, 2012); the market share of PLBs by value in the U.S. alone increased from 15.5% in 2013 to 19.3% in 2018 (O'Connell, 2019). Furthermore, rather than being perceived merely as low-cost alternatives to manufacturers' national brands, these PLBs are considered high-quality products (Nielsen, 2014), and have multi-tiered portfolios comprising products with varying price and quality levels (Bodur, Tofighi, & Grohmann, 2016). Although price is one of the key drivers of favorable purchase intentions for PLBs, the perceived quality and value of products offered by these brands are significant contributors to their overall brand appeal (Nielsen, 2014).

One of the major challenges faced by these private labels involves developing a favorable consumer attitude towards their products. To this end, retailers present a variety of information in online environments, such as product price, quantity, price per unit, and customer ratings; in addition, online consumer reviews are generally quite appealing to consumers (Zhu & Zhang, 2010). Moreover, compared to the information provided by a brand, information provided by other consumers is associated with greater trust (Blazevic et al., 2013). Online reviews have quantitative features (e.g., average rating, rating frequency) and qualitative features (e.g., the review's content; Sridhar, & Srinivasan, 2012) with the former exerting heuristic effects and the latter systematic effects on consumers (Maslowska, Malthouse, & Viswanathan, 2017). This review-related information helps consumers to compare products, and hence, decreases risk associated with purchase decisions (Maslowska et

al., 2017). Since the qualitative features require additional effort for processing information, consumers likely use quantitative review features to make online purchase decisions for low-involvement, consumer-packaged goods offered by PLBs. Almost all PLBs embed quantitative review-related information, and present it as an integral part of the online product advertisements. This leads to increased visibility of the quantitative features of review information to consumers. Hence, examining the impact of this information (e.g., rating favorability) on purchase intentions for PLB products could help retailers make effective product portfolio decisions specific to each product category. This context is therefore the primary focus of the current research.

Previous studies involving review valence (i.e., average star-rating; negative valence: one- to two-star reviews, neutral: three-star reviews, positive valence: four- to five-star reviews) and volume (i.e., number of reviews) have primarily focused on specific product categories such as movies and books (Babic Rosario, Sotgiu, de Valck, & Bijmolt, 2016). However, similar effects on purchase intentions for consumer-packaged goods have remained unexplored, although consumers provide online ratings and reviews even for these relatively low-involvement products. Even if the majority of consumer-packaged goods purchases occur offline, consumers tend to visit retail websites to check deals and offers, compare products, and confirm product availability. A review of extant literature on the effects of different characteristics of online reviews, such as average rating, frequency, and recency, reveal mixed results (Zhu & Zhang, 2010). This may be due to the limited number of product categories examined (Babic et al., 2016). Furthermore, PLBs differ from national brands (NBs) with reference to product exclusivity and brand perceptions (Bodur, Tofighi, & Grohmann, 2016), yet prior research generally focused on NB reviews. Hence, an examination of the effects of rating favorability on purchase intentions in the context of PLBs can inform both theory and managerial practice.

This research investigates the effect of rating favorability on PLB purchase intentions, the mediating role of product attitude, and the moderating role of rating frequency, brand familiarity (low vs. high), and product novelty (product: existing vs. new to the PLB). Three experiments examine the direct and indirect effects of rating favorability on purchase intentions for PLBs. Experiment 1 findings revealed a significant indirect effect of rating favorability on purchase intentions, completely mediated by product attitude; however, no significant direct effect or interactions involving rating frequency emerged. Experiment 2 replicates these findings and provides support for generalizability to a different brand and a new set of products associated with higher prices. Experiment 3 findings revealed that rating favorability has no significant direct effect on purchase intentions for PLBs. Also, no significant interaction effects (rating favorability × brand familiarity, rating favorability × product novelty) emerged for the impact of rating favorability on product attitude and purchase intentions. Similar to experiment 1 and experiment 2 findings, the effect of rating favorability on purchase intentions for PLBs was completely mediated by product attitude. For both inexpensive (experiment 1) and more expensive (experiment 2, experiment 3) PLBs, there was no significant direct effect of rating favorability on purchase intentions, and no significant interaction effects involving rating frequency, brand familiarity, and product novelty.

These findings make several contributions. First, they demonstrate that no direct effect of rating favorability on purchase intentions exists for PLBs. This is contrary to the literature on consumer behavior associated with national brands (NBs). This research thus has managerial implications regarding the differences between PLBs and NBs in terms of a direct effect of rating favorability on purchase intentions for products offered by these brands. Second, the experiments reveal a counterintuitive finding of no significant interaction effects involving rating frequency. Drawing from the signaling theory, prior research indicates online reviews signal perceived product quality (Amblee & Bui, 2011) and expected to influence consumer decision-making

through a cumulative (additive) effect by including other similar signals (e.g., review valence, volume; Maslowska, Malthouse, & Viswanathan, 2017). The finding that for PLBs, rating frequency does not influence consumers' purchase intention is contrary to previous findings (Chevalier & Mayzlin, 2006; Park, Lee, & Han, 2007) involving experience products (Cui, Lui, & Guo, 2012). Third, the three experimental studies provide converging evidence of an effect of rating favorability on purchase intentions for PLBs that is fully mediated by product attitude. This information helps marketers make effective use of the processes underlying the effects of rating favorability on purchase intentions for PLBs. Fourth, controlling for brand attitude, consumer confidence, product involvement, and rating frequency, the current research finds no direct effect of rating favorability on purchase intentions for PLBs at different levels of brand familiarity and product novelty. Because novel products offered by private labels and unfamiliar brands have risk implications, which are generally greater for PLBs as compared to NBs, a significant moderating role of product novelty and brand familiarity in the effect of rating favorability on purchase intentions for PLBs seems likely. However, the findings that degree of brand familiarity as well as the level of product novelty do not play any such role are counterintuitive, and future research is needed to examine the reasons underlying this phenomenon. Fifth, we conducted experimental research using consumer-level data to examine relationships amongst variables such as rating characteristics and purchase intentions that are more proximal to each other as compared to other variables such as valence and sales used in previous research studies, which involved use of market data. Thus, similar to the study by Kostyra and colleagues (2016), this research design and experimental setting mitigated the endogeneity effects that were considered in a study by Duan, Gu, and Whinston (2008) and in other similar studies. This approach contributes to the increased validity of the findings of this research. Finally, this research contributes to the existing literature by providing explanations for

the observed effects of rating favorability on purchase intentions of PLBs based on the elaboration likelihood model's peripheral route of information processing. In particular, we used twelve different low-involvement products, including both economy and premium PLBs with varying brand familiarity and product novelty in the experiments; the findings reveal information processing involving low effort and the decision-making being largely influenced by rating favorability rather than increased cognitive processing involving high effort and the effects of other similar cues (e.g., rating frequency).

Conceptual Background

Rating Favorability

Rating favorability is the perceived favorability of a product rating based on the average star-rating, which is a quantitative feature of a product review. The average star-rating is a cumulative figure representative of product evaluations by previous consumers, and helps potential consumers draw inferences about the product quality (Kostyra, Reiner, Natter, & Klapper, 2016). Research has commonly used average star rating, valence, review valence, and other similar terms (Maslowska, Malthouse, & Viswanathan, 2017). However, from a consumer's perspective, it is not this number, but rather perceived favorability associated with the number that plays a significant role in consumer decision-making. To illustrate, although an average rating of 3.0 on a five-point rating scale statistically indicates a positive valence, consumers' perceptions with reference to their purchase intentions still may not be favorable. Ignoring the fact that effects of perceived favorability of product ratings on purchase intentions are indeed significant could lead to biased estimates and model misspecification. From a behavioral perspective, our research fills this gap by considering rating favorability instead of

valence as a predictor across three experiments.

Purchase Intentions

Purchase intention refers to the "predisposition to buy a certain brand or product" (Belch & Belch, 2004, p. 120), and shows an individual's purchase likelihood for a product (Phelps & Hoy, 1996; Dodds, Monroe, & Grewal 1991) or the possibility (Schiffman & Kanuk, 2000) as well as his/her product consideration and willingness to buy a product (Dodds et al., 1991). According to Shao, Baker, and Wagner (2004), "purchase intent refers to a consumer's intention to purchase a product, or to patronize a service firm" (p. 1166), whereas Engel, Blackwell, and Miniard (2001) viewed purchase intention as some subjective judgment about a potential consumer behavior. To summarize, these definitions highlight different aspects related to purchase intentions with reference to the consumers' willingness to buy, purchase likelihood, and their potential purchase and/or repurchase behavior for products/service offerings. In this research, purchase intentions are associated with potential consumers and refer to their willingness to purchase products in future.

Rating Favorability Effects on Purchase Intentions

Online reviews by existing consumers have a significant impact on the decision-making related to product purchases depending on product and consumer characteristics (Zhu & Zhang, 2010) as these reviews help alleviate the risks involved with purchase decisions. Furthermore, the consumer-packaged goods offered by PLBs are generally low-priced products, and hence, consumers are expected to expend less effort and rely more on the heuristic cues (e.g. rating favorability) for purchase-related decisions. Previous studies have revealed equivocal findings

about the effects of online customer reviews on product sales for experiential goods (Trenz & Berger, 2013) and on other variables such as purchase intentions. A study involving aggregated box office data (Chintagunta, Gopinath, & Venkataraman, 2010) found a significant impact of review valence on movie sales. On the contrary, Duan, Gu, and Whinston (2008) considered user reviews to be endogenous and examined movie sales data to find no significant impact of rating on the box office revenues. In this research, rating favorability is an exogenous factor and is expected to influence purchase intentions (but not vice versa). Moreover, compared to an average rating (e.g., 3 stars out of 5 stars) indicating ambiguity, unequivocal reviews clearly have a significant influence on purchase decisions (Forman, Ghose, & Wiesenfeld, 2008). Unequivocal reviews reflect upon the perceived favorability or unfavorability of a product rating. Finally, although reviews for consumer packaged goods (CPG) offered by PLBs are commonly available online, however, to the best of our knowledge, the effects of rating favorability on purchase intentions for these goods offered by PLBs have not been examined in the past. Hence, considering the decrease in risk implications associated with the purchase decisions for PLBs caused by favorable ratings (Cui, Lui, & Guo, 2012), we hypothesize that:

H1. Rating favorability relates positively to purchase intentions for PLBs.

The Moderating Role of Rating Frequency

Rating frequency, also known as review volume or number of reviews, refers to the number of online product reviews posted by other consumers. Previous studies involving online consumer reviews have revealed mixed results for the effects of rating frequency on select variables (e.g., sales) related to purchase decisions (Kostyra, Reiner, Natter, & Klapper, 2016).

According to Maslowska, Malthouse, and Viswanathan (2017), the effects of review valence on the purchase likelihood are the strongest when there is a large number of reviews. Furthermore, the volume of online consumer reviews does not influence consumer choices directly, but rather moderates the effects of review valence on these choices. Previous research neglected such interaction effects (Kostyra et al., 2016).

In addition, the interaction amongst rating favorability and frequency reflects perceived product popularity, which according to Park and Lee (2008) significantly impacts purchase intentions. The effects of rating favorability on purchase intentions for PLBs are expected to become stronger and hence, more significant when the rating frequency is high due to conformity caused by exposure to product evaluations by referents (Lascu & Zinkhan, 1999) and characterized by their number (i.e., group size) (Lee, Park, & Han, 2008), and become weaker and insignificant when the rating frequency is low. Therefore, in congruence with past research, we conceptualize rating frequency as a moderator of rating favorability (Zablocki, Schlegelmilch, & Houston, 2019), and state the following hypothesis:

H2. Rating frequency moderates the effects of rating favorability on purchase intentions for PLBs, such that a higher frequency strengthens the relation between rating favorability and purchase intentions.

The Mediating Role of Product Attitude

In general, "the term *attitude* is used to refer to a person's overall evaluation of persons (including oneself), objects, and issues" (Petty & Wegener, 1998, p. 323). Petty, Cacioppo, and Schumann (1983) referred to attitude in the context of product evaluations by consumers based

on their exposure to stimuli such as advertisements. In this study, the product attitude depicts the favorability or unfavorability of a consumer's evaluation of a product, and is based on the favorability of online ratings. The "persuasive" effects of online reviews influence purchase decisions of the consumers by shaping their product attitudes (Duan, Gu, & Whinston, 2008). A meta-analytical study (Purnawirawan, Eisend, De Pelsmacker, & Dens, 2015) about online reviews found that largely positive review sets (i.e., positive valence) have a significant positive impact on the product attitudes. Hence, favorable product ratings should convey positive product evaluations by existing consumers, and such ratings contribute to an increase in the favorable product attitude of potential consumers. According to Zielke, and Dobbelstein (2007), attitude towards a specific PLB has a significant impact on purchase intentions, and this impact depends on the product category. Furthermore, product attitude has a significant impact on consumer purchase intentions (Kim & Hunter, 1993) for private label frozen vegetables (Chaniotakis, Lymperopoulos, & Soureli, 2009) and premium food products (olive oil) offered by PLBs (Chaniotakis, Lymperopoulos, & Soureli, 2010). Therefore, we postulate a significant and positive relation between rating favorability and product attitude for PLBs, which subsequently enhances purchase intentions.

H3. Product attitude mediates the positive relation between rating favorability and purchase intentions for PLBs, such that more favorable ratings are associated with more favorable product attitude, and subsequently, with increased purchase intentions for PLBs.

A high rating frequency evokes a conformity effect, which is individuals' predispositions

"to conform to the influence of others" (Lascu & Zinkhan, 1999, p. 1), and therefore would lead to a favorable product attitude depending upon the rating favorability due to "the interpersonal nature of information in online consumer reviews" (Lee, Park, & Han, 2008, p. 343). Furthermore, as the proportion of negative product reviews increases, low-involvement consumers tend to comply with reviewers' opinions (Lee et al., 2008). On the other hand, a low rating frequency likely mitigates the impact of rating favorability on purchase intentions. In sum, rating frequency would moderate the effects of rating favorability on product attitude towards PLBs, and hence, we postulate the following hypothesis.

H4. Rating frequency moderates the relation between rating favorability and product attitude for PLBs, such that a higher rating frequency strengthens the positive relation between rating favorability and product attitude, whereas lower rating frequency weakens the relation between rating favorability and product attitude.

The Moderating Role of Brand Familiarity

Alba and Hutchinson (1987) defined familiarity as "the number of product-related experiences that have been accumulated by the consumer" (p. 411). In this study, brand familiarity refers to the number of brand-related experiences accumulated by the consumer and expressed in terms of his/her familiarity, experience, and knowledge about a specific private label. Brand familiarity varies across brands, and this applies to different PLBs as well as their multi-tiered portfolios comprising products with varying price and quality levels (Bodur, Tofighi, & Grohmann, 2016). Hence, considering the risk implications associated with the purchase decisions for PLBs, especially ones with low degree of familiarity, examining the

moderating role of brand familiarity in the effects of rating favorability on purchase intentions for PLBs holds managerial significance. A study by Sundaram and Webster (1999) revealed the moderating role of brand familiarity in the effects of word-of-mouth (WOM) on brand evaluations such as consumer purchase intentions, and compared to these evaluations for familiar brands, those for unfamiliar brands were found to be more susceptible to changes caused by WOM. In a recent study (Ruiz-Equihua, Romero, & Casaló Luis, 2020) involving hospitality industry, the authors found that compared to familiar hotels, the less familiar ones exhibited significant effects of positive (negative) reviews leading to increased (decreased) booking intentions. Furthermore, the authors (Ruiz-Equihua et al., 2020) cite self-perception theory (Bem, 1972) in the specific context of eWOM to argue in favor of increased influence of online reviews (second-hand information) on purchase-related behaviors when the first-hand information available with the consumers is weaker, and vice versa. Extending this argument to goods, it is expected that rating favorability (second-hand information) effects on purchase intentions for PLBs would become stronger for less familiar brands, and become weaker and insignificant for brands that are rated high on familiarity, i.e. those PLBs that are characterized by abundant first-hand information. Also, past literature has revealed that the need for information search gets attenuated for familiar brands (Ha & Perks, 2005). Hence, we expect brand familiarity to moderate the effects of rating favorability on purchase intentions for PLBs, and hence, hypothesize the following.

H5. Brand familiarity moderates the effects of rating favorability on purchase intentions for PLBs, such that a lower familiarity strengthens the relation between rating favorability and purchase intentions.

Brand familiarity impacts consumers' attitude, and may even protect brands from the adverse effects of negative information (Dawar & Lei, 2009) such as a lower rating favorability. Additionally, the interaction of review valence and brand familiarity influences product attitude (Purnawirawan, Eisend, De Pelsmacker, & Dens, 2015). Therefore, we expect brand familiarity to moderate the impact of rating favorability on product attitude such that rating favorability would significantly influence product attitude for less familiar PLBs; this interaction effect would become weak and insignificant for highly familiar brands. Hence, we postulate the following hypothesis.

H6. Brand familiarity moderates the relation between rating favorability and product attitude for PLBs, such that a lower familiarity strengthens the positive relation between rating favorability and product attitude, whereas a higher familiarity weakens the relation between rating favorability and product attitude.

The Moderating Role of Product Novelty

Product novelty refers to the degree of newness associated with a product's features/ functionality/benefits (Lee & Colarelli O'Connor, 2003). In this study, product novelty is operationalized as a product that is new to a PLB. In general, compared to existing products, the novel products have higher risk implications as perceived by the consumers (Plotkina & Munzel, 2014). Furthermore, in their study involving several product categories, Plotkina, and Munzel (2014) found that consumers find novel products less appealing and hence, the impact of product reviews on these products is significantly higher; this holds true only for frequently purchased products. Since the consumer-packaged goods are purchased more

frequently than other products, an increased dependence of consumers on rating favorability for purchase decisions concerning novel products is expected. Therefore, product novelty is expected to moderate the effect of rating favorability on consumer purchase intentions such that a higher rating favorability would lead to increased purchase intentions; this increase being significantly more for novel products than for current products offered by PLBs. Hence, we hypothesize the following.

H7. Product novelty moderates the effects of rating favorability on purchase intentions for PLBs, such that a higher novelty strengthens the relation between rating favorability and purchase intentions.

For novel products offered by PLBs, the potential consumers do not have any first-hand information about the product, and hence their dependence on the product ratings (i.e., second-hand information) available online increases significantly, and this subsequently influences the attitude towards private label products. Therefore, extending the arguments made by Plotkina, and Munzel (2014) in the context of novel products to consumer attitude towards private label products, it seems quite logical to expect that for frequently purchased products, novelty would moderate the impact of rating favorability on product attitude for PLBs. It must be noted that for existing products, consumers already have first-hand information related to the product, and hence, the contribution of online ratings (i.e., second-hand information) to the development of product attitude decreases significantly. Thus, we postulate the following hypothesis.

H8. Product novelty moderates the relation between rating favorability and product attitude for PLBs, such that a higher novelty strengthens the positive relation between rating favorability and product attitude, whereas a lower novelty weakens the relation between rating favorability and product attitude.

Three experiments empirically test the direct and indirect effects of rating favorability on consumer purchase intentions for products offered by private label brands.

Experiment 1: Effects of Rating Favorability on Purchase Intentions at Different Rating Frequencies

Experiment 1 examined the direct and indirect effects of rating favorability on purchase intentions at three different rating frequencies (low, moderate, high) using online advertisements for five different products offered by a private label brand.

Method

Experiment 1 used a 2 (rating favorability: unfavorable vs. favorable) × 3 (rating frequency: low, moderate, high) study design with participants assigned randomly to the conditions. The experiment was replicated for five products from Great Value by Walmart (i.e., French fried onions, LED bulb, lemon juice, chocolate milk, and disposable plates). We presented two online product descriptions for each product to every participant: one displayed favorable product rating and another presented an unfavorable rating for the same product. Three pretests were conducted to select the levels of rating favorability and rating frequency

and to identify private-label brands based on familiarity.

Rating favorability pretest. The pretest was based on stimuli (see Appendix A) comprising nine online product ratings ranging from 1.0 to 5.0 with 0.5 incremental change; order of ratings' presentation was randomized across participants. After removal of data due to failed attention checks (n = 10), data from forty-one MTurk participants (Mdn_{age} = 31-40 years, 36.59% female, $Mdn_{monthlyincome}$ = 2001-4999 USD per household, $Mdn_{householdsize}$ = 2, $Mdn_{education}$ = undergraduate degree) was analyzed. Participants received 0.75 USD to complete the survey (M_{time} = 12.20 minutes). The participants were introduced to the concept of a PLB as a brand that is owned and marketed by a retailer (e.g. Great Value, Equate and Sam's Choice are retail brands by Walmart; Kirkland Signature is a retail brand by Costco), and were asked to imagine viewing products offered by these PLBs online. Next, participants indicated their perceived favorability (1 = *extremely unfavorable*, 7 = *extremely favorable*) of each online product rating. Finally, participants completed an attention check and demographic questions. Mauchly's test of sphericity showed that the assumption of sphericity was not met, $\chi^2(35) = 149.57$, $p < .001$. A repeated measures ANOVA with a Greenhouse-Geisser correction showed that mean rating favorability differed significantly between product ratings ($F(4.15, 165.98) = 813.55$, $p < 0.001$, $\eta_p^2 = .95$). Post hoc tests using the Bonferroni correction revealed that compared to a rating of 1.0 (M = 1.07, SD = .26), the perceived favorability of a rating of 1.5 (M = 1.83, SD = .44) is significantly greater by an average of .76 ($p < 0.001$). This pattern of results was replicated for the other product rating pairs with the perceived favorability of a higher rating found to be significantly greater than that of the corresponding lower rating in each pair.

Rating frequency pretest. The stimuli for this pretest comprised nine different categories of online rating frequencies (5 or less, 6 to 10, 11 to 20, ……., 1000 or more). The order of presentation of frequencies was randomized across participants. After removal of data due to failed attention checks (n = 8), data from forty-four MTurk participants (Mdn_{age} = 31-40 years, 43.18% female, $Mdn_{monthlyincome}$ = 2001-4999 USD per household, $Mdn_{householdsize}$ = 2, $Mdn_{education}$ = undergraduate degree) was analyzed. Participants received 0.75 USD to complete the survey (M_{time} = 10.00 minutes). Similar to the rating favorability pretest, the participants were introduced to the concept of a PLB, and were asked to imagine viewing products offered by these PLBs online. Next, participants indicated their perceptions about each rating frequency (1 = *far too few*, 7 = *far too many*). Finally, participants completed an attention check and demographic questions. Nine rating frequencies were grouped equally into three categories: few (5 or less, 6 to 10, 11 to 20), moderate (21 to 50, 51 to 99, 100 to 200), and many (200 to 500, 501 to 999, 1000 or more) ratings. Mauchly's test of sphericity showed that the assumption of sphericity was not met, $\chi^2(2) = 22.38$, $p < .001$. A repeated measures ANOVA with a Greenhouse-Geisser correction showed that mean scores differed significantly between rating frequency groups ($F(1.42, 60.86) = 241.01$, $p < 0.001$, $\eta_p^2 = .85$). Post hoc tests using the Bonferroni correction revealed that compared to the rating frequency group comprising few ratings (M = 1.72, SD = 1.10), the rating frequency group comprising moderate number of ratings (M = 3.24, SD = .98) is perceived to be significantly greater by an average of 1.52 ($p <$ 0.001). This pattern of results was replicated for the other frequency rating group pairs with the mean score of the higher rating frequency group perceived to be significantly greater than the corresponding score of the lower rating frequency group in each pair.

Brand familiarity pretest. The stimuli for this pretest comprised twelve brands randomly selected from twenty-four different PLBs. The order of presentation of brand names was randomized across participants. After removal of data due to failed attention checks (n = 16), data from eighty-six MTurk participants (Mdn_{age} = 31-40 years, 46.51% female, $Mdn_{monthlyincome}$ = 2001-4999 USD per household, $Mdn_{householdsize}$ = 2, $Mdn_{education}$ = undergraduate degree) was analyzed. Participants received 0.75 USD to complete the survey (M_{time} = 9.30 minutes). The participants were introduced to the concept of PLBs as brands that are owned and marketed by retailers such as Walmart, Costco, Loblaw Companies, The Home Depot, Macy's, CVS Pharmacy, Rite Aid, and others, and were asked to imagine viewing products offered by these retail brands online. Next, participants indicated the extent of their awareness of and experience with the retail brand (three items: 1 = *unfamiliar*, 7 = *familiar*; 1 = *inexperienced*, 7 = *experienced*; 1 = *not knowledgeable*, 7 = *knowledgeable*; Kent & Allen, 1994). Finally, participants completed a validation check and demographic questions. A one-sample t-test (test value = 3) was conducted to compare the PLBs based on familiarity. Compared to other retail brands, six private labels, namely Great Value (M = 5.34, SD = 2.06), $t(42) = 7.45$, $p < 0.001$; Sam's Choice (M = 4.73, SD = 2.22), $t(47) = 5.40$, $p < 0.001$; Equate (M = 3.95, SD = 2.46), $t(43) = 2.56$, $p = 0.014$; Kirkland Signature (M = 4.13, SD = 2.11), $t(38) = 3.34$, $p = 0.002$; CVS Health (M = 5.71, SD = 1.45), $t(41) = 12.17$, $p < 0.001$; and Rite Aid Pharmacy (M = 4.86, SD = 1.93), $t(43) = 6.37$, $p < 0.001$ were rated significantly higher on familiarity. Furthermore, relatively unfamiliar PLBs were also identified (see Table 1).

Sample and measures. One-hundred and fifty MTurk participants were randomly assigned to conditions in a 2 (rating favorability: unfavorable - 1.5-star vs. favorable - 4.5-star)

× 3 (rating frequency: low - 9, moderate - 75, high - 750) experiment, replicated for five products from Great Value by Walmart (i.e., French fried onions, LED bulb, lemon juice, chocolate milk, and disposable plates). After removal of data due to failed attention checks (n = 10), data from one-hundred forty MTurk participants (Mdn_{age} = 31-40 years, 44.29% female, $Mdn_{monthlyincome}$ = 2001-5000 USD per household, $Mdn_{householdsize}$ = 2, $Mdn_{education}$ = undergraduate degree) was analyzed. Participants received 2.00 USD to complete the survey (M_{time} = 28.82 minutes). The participants were introduced to the concept of PLBs, and were asked to imagine viewing products offered by these retail brands online. Next, participants indicated their general attitude toward private labels (six items, e.g., "Buying private label brands makes me feel good"; 1 = *strongly disagree*, 7 = *strongly agree*; Burton, Lichtenstein, Netemeyer, & Garretson, 1998; α = .87) and risk aversion (three items, e.g., "I would rather be safe than sorry"; 1 = *strongly disagree*, 7 = *strongly agree*; Donthu & Gilliland, 1996; α = .73). The order of presentation of two scales and items within each scale were randomized. Further, participants saw two product offerings each (rating: unfavorable vs. favorable) for five different products (French fried onions, LED bulb, lemon juice, chocolate milk, and disposable plates) of Great Value by Walmart, all priced at less than 10 USD. Next, participants rated their product attitude (1 = *unfavorable*, 7 = *favorable*; 1 = *bad*, 7 = *good*; 1 = *negative*, 7 = *positive*; Kalra & Goodstein, 1998; α = .99), brand attitude (Burton et al., 1998; α = .93), consumer confidence (two items, e.g., "How confident are you about your evaluation of Great Value as a private label brand?"; 1 = *far too little*, 7 = *far too much*; Laroche, Kim, & Zhou, 1996; α = .96), product involvement (three items, e.g., "I am particularly interested in this product."; 1 = *strongly disagree*, 7 = *strongly agree*; Chandrasekaran, 2004; α = .74), and purchase intentions (three

items, e.g., “Based on the information displayed above, the likelihood of purchasing this product is …”; 1 = *very low*, 7 = *very high*; Dodds, Monroe, & Grewal, 1991; α = .98). The order of presentation of items within each scale was randomized. Brand attitude, consumer confidence, and product involvement served as covariates. Finally, participants completed an attention check and demographic questions.

Results

For French fried onions, an ANOVA showed a significant main effect of rating favorability on purchase intentions ($F(1,278) = 20.67$, $p < .001$), product attitude ($F(1,265.65)$ 33.95, $p < .001$), and brand attitude ($F(1,267.66) = 23.03$, $p < .001$). Rating frequency had no significant main or interaction effects (see Exhibits: *Figure 6 - 15*). Results were consistent for the other four products (see Table 2). Using the data for French fried onions, a mediation analysis (*PROCESS model 8*, 10,000 bootstrap samples; Hayes, 2018) with rating favorability as the predictor, product attitude as a mediator, brand attitude, consumer confidence, and product involvement as covariates, and rating frequency as the moderator was performed. The results revealed no significant moderated mediation effect of rating favorability on purchase intentions across different levels of rating frequency (W1: *index* = -0.02, *SE* = 0.05, *95% CI* [-0.12, 0.06]; W2: *index* = 0.07, *SE* = 0.05, *95% CI* [-0.02, 0.19]); low rating frequency served as the baseline for comparison. The results obtained using data for the other four products were consistent with these findings (Table 3). Furthermore, for French fried onions, no significant indirect effect of rating favorability on purchase intentions mediated by product attitude was observed for few ratings (*indirect effect* = 0.05, *SE* = 0.04, *95% CI* [-0.01, 0.13]), and moderate

number of ratings (*indirect effect* = 0.03, *SE* = 0.03, *95% CI* [-0.03, 0.09]); however, a significant indirect effect was found for many ratings (*indirect effect* = 0.12, *SE* = 0.05, *95% CI* [0.04, 0.24]). This pattern of results was replicated for the other products with two exceptions: a significant indirect effect observed only for few ratings (not many ratings) for paper plates, and a significant indirect effect observed for moderate number of ratings in addition to a similar effect observed for many ratings for LED bulb (Table 4, Table 5), providing partial support for H3. Across five products, no significant pattern in direct effects or interactions involving rating frequency emerged. Hence, the results do not support hypotheses H1, H2, and H4.

Discussion

Experiment 1 showed that for familiar private label brands (e.g., Walmart's Great Value), the effect of rating favorability on purchase intentions is completely mediated by product attitude, but only when the number of product ratings are more. For PLB products, higher rating favorability leads to a favorable product attitude, and this further leads to increased purchase intentions for these products; this holds true only when the rating frequency is high.
This supports H3. In addition, the results are not in line with previous literature. Although, we expected rating favorability to relate positively to purchase intentions for PLBs, but the results do not support this argument (H1). We expected rating frequency to moderate the effects of rating favorability on product attitude (H4), and purchase intentions (H2). However, no such interactions emerged from the data for five product categories by a familiar PLB. These outcomes are specific to PLBs, thereby highlighting unique aspects concerning consumer perceptions based on select quantitative characteristics of review-related information for

products offered by these private labels. It is worth noting that the five different product categories used in experiment 1 were all offered by the same PLB, and that all these products were priced at less than 10 USD. The PLB and price point may have played a role in the pattern of results. Experiment 2 addresses these issues.

Experiment 2: Effects of Rating Favorability on Purchase Intentions at Different Rating Frequencies for High Priced Products

Experiment 2 aimed at establishing the robustness of experiment 1 results, especially with reference to the lack of a significant effect of rating frequency, by using a different familiar private label brand and a set of products associated with higher prices, ranging from 15 USD to 27 USD. In experiment 2, we examined the direct and indirect effects of rating favorability (unfavorable vs. favorable) on purchase intentions at two different rating frequencies (low vs. high) using online advertisements for four different products offered by a PLB that differs from that used in experiment 1.

Method

In this experiment, participants were randomly assigned to one condition in a 2 (rating favorability: unfavorable vs. favorable) × 2 (rating frequency: low vs. high) study design with four product replicates (dishwasher detergent packs, mixed nuts, olive oil, and photo paper from Kirkland Signature by Costco). The order of presentation of product information was

randomized across participants. The three pretests conducted in experiment 1 were used to select the levels of rating favorability and rating frequency, and to identify a PLB based on familiarity.

Sample and measures. One-hundred and ninety nine MTurk participants were randomly assigned to conditions in a 2 (rating favorability: unfavorable - 1.5-star vs. favorable - 4.5-star) × 2 (rating frequency: low - 9 vs. high - 750) experiment, replicated for four different products from Kirkland Signature by Costco. After removal of data due to failed attention checks (n = 21), data from one-hundred and seventy-eight MTurk participants (Mdn_{age} = 31-40 years, 45.51% female, $Mdn_{monthlyincome}$ = 2001-5000 USD per household, $Mdn_{householdsize}$ = 2, $Mdn_{education}$ = undergraduate degree) was analyzed. Participants received 1.25 USD to complete the survey (M_{time} = 14.20 minutes). Similar to experiment 1, the participants were introduced to the concept of a PLB, and were asked to imagine viewing products offered by these PLBs online. Next, participants indicated their general attitude toward private labels (six items, e.g., "Buying private label brands makes me feel good"; 1 = *strongly disagree*, 7 = *strongly agree*; Burton, Lichtenstein, Netemeyer, & Garretson, 1998; α = .82) and risk aversion (three items, e.g., "I would rather be safe than sorry"; 1 = *strongly disagree*, 7 = *strongly agree*; Donthu & Gilliland, 1996; α = .83). The order of presentation of two scales and items within each scale were randomized. Further, the participants saw one product offering (rating: unfavorable vs. favorable) for each of the four product replicates (i.e., dishwasher detergent packs, mixed nuts, olive oil, and photo paper) from Kirkland Signature by Costco, all approximately priced between 15 USD and 27 USD. After viewing each product offering, participants responded to the same measures ($\alpha_{product\ attitude}$ = .98, $\alpha_{brand\ attitude}$ = .92, $\alpha_{consumer\ involvement}$ = .90, $\alpha_{product\ involvement}$

= .74, $\alpha_{\text{purchase intentions}}$ = .98) as used in experiment 1, and completed an attention check and demographic questions.

Results

After removal of data due to failed attention checks (n = 21), the ANOVA for dishwasher detergent packs showed a significant effect of rating favorability on purchase intentions ($F(1,176) = 74.17$, $p < .001$), product attitude ($F(1,144.58) = 117.46$, $p < .001$), and brand attitude ($F(1,167.34) = 61.87$, $p < .001$), whereas rating frequency was not involved in significant main or interaction effects (see Exhibits: *Figure 20 - 27*). These results were consistent across the four products (see Table 6). Mediation analyses (*PROCESS model 8*, 10,000 bootstrap samples; Hayes, 2018) replicated the results of study 1, and provided support for generalizability to a different brand and new set of products. No significant moderated mediation effect of rating favorability on purchase intentions for dishwasher detergent packs emerged across different levels of rating frequency (*index* = -0.01, *SE* = 0.04, *95% CI* [-0.11, 0.06]). This pattern of results was consistent for the three other products (see Table 7). Across four products, there were no significant direct effects of rating favorability on purchase intentions for PLBs at low levels of rating frequency (see Table 8). The results obtained at higher rating frequency were mixed; unlike mixed nuts, and photo paper, the data for dishwasher detergent, and olive oil revealed significant conditional direct effects. Furthermore, for dishwasher detergent packs, the results revealed a significant indirect effect of rating favorability on purchase intentions for PLBs mediated by product attitude at low rating frequency (*indirect effect* = 0.13, *SE* = 0.08, *95% CI* [0.00, 0.32]), and high rating frequency

(*indirect effect* = 0.12, *SE* = 0.08, *95% CI* [0.00, 0.29]). These findings were consistent with the other three products offered by the PLB with the exception of mixed nuts wherein the indirect effect of rating favorability on purchase intentions was not significant at low rating frequency (see Table 9). Thus, hypothesis H3 is partially supported.

Next, several hypotheses were tested. The rating favorability had no significant direct effect on the purchase intentions for dishwasher detergent packs (*effect* = 0.26, *SE* = 0.15, *t* = 1.78, *95% CI* [-0.03, 0.56]), mixed nuts (*effect* = -0.17, *SE* = 0.10, *t* = -1.64, *95% CI* [-0.37, 0.04]), olive oil (*effect* = 0.16, *SE* = 0.09, *t* = 1.76, *95% CI* [-0.02, 0.35]), and photo paper (*effect* = -0.04, *SE* = 0.12, *t* = -0.38, *95% CI* [-0.27, 0.18]) offered by PLBs. Thus, hypothesis H1 is not supported. For dishwasher detergent packs, the interaction effect of rating favorability and rating frequency (*effect* = 0.09, *SE* = 0.09, *t* = 0.92, *95% CI* [-0.10, 0.27]) on purchase intentions for PLBs was not found to be significant. These findings were consistent with the other three products, and hence, hypothesis H2 is not supported. Finally, for dishwasher detergent packs, the interaction effect of rating favorability and rating frequency (*effect* = -0.03, *SE* = 0.07, *t* = -0.37, *95% CI* [-0.17, 0.12]) on product attitude for PLBs was not found to be significant. These findings were consistent with the other three products, and hence, hypothesis H4 is not supported. Thus, in experiment 2, no significant direct effect or interactions involving rating frequency emerged. Similar to experiment 1, hypotheses H1, H2, and H4 were not supported. This pattern of results was replicated for the other products (Table 8, Table 9).

Discussion

Experiment 2 established robustness of experiment 1 findings using relatively more

expensive products offered by another familiar private label brand (i.e., Costco's Kirkland Signature). This provides initial evidence of generalizability of the direct and indirect effects of rating favorability on purchase intentions for PLBs. Once again, product attitude completely mediated the impact of rating favorability on purchase intentions for PLBs, both at high and low rating frequencies with the exception of mixed nuts wherein the indirect effect of rating favorability on purchase intentions was not significant at low rating frequency, and thus supports hypothesis H3. Consistent with experiment 1 results, the expected moderating effect of rating frequency on product attitude, and purchase intentions did not emerge for the four product categories by a familiar PLB included in this study. Therefore, hypotheses H2, and H4 were again not supported. Furthermore, we expected a direct effect of rating favorability on purchase intentions for PLBs, but no such effect is observed. Thus, H1 is not supported. In sum, experiment 1 and experiment 2 findings provide converging evidence for effects of rating favorability on purchase intentions for PLBs completely mediated by product attitude. The explanation for these effects is based on the elaboration likelihood model's peripheral route of information processing. The findings reveal information processing involving low effort and the decision-making being largely influenced by rating favorability rather than increased cognitive processing involving relatively high effort and the effects of other similar cues (e.g., rating frequency) moderating the effects.

Brand familiarity varies across PLBs and multi-tiered portfolios comprising products with varying price and quality levels (Bodur, Tofighi, & Grohmann, 2016). It is therefore possible that there are increased risk implications associated with less (vs. more) familiar PLBs. Also, as discussed earlier, consumers' dependence on review-related information increases for products, especially low-involvement products offered by less familiar brands or for products that are novel. Therefore, role of brand familiarity and product novelty on the effects of rating favorability on purchase intentions for PLBs holds managerial significance. Experiment 3

examines the effects of rating favorability on purchase intentions for PLBs mediated by product attitude, and moderated by brand familiarity and product novelty.

Experiment 3: Effects of Rating Favorability on Purchase Intentions at Different Levels of Brand Familiarity and Product Novelty

Experiments 1 and 2 examined the direct and indirect effects of rating favorability on purchase intentions at different rating frequencies for several different products from two familiar PLBs. In experiment 3, we examined the direct and indirect effects of rating favorability on purchase intentions for PLBs at two different levels of brand familiarity (low vs. high), and product novelty (existing product vs. new product offered by the PLB) using online advertisements provided for three different products offered by two PLBs. Brand attitude, consumer confidence, product involvement, and rating frequency served as covariates.

Method

In this experiment, participants were randomly assigned to one condition in a 2 (rating favorability: unfavorable vs. favorable) × 2 (rating frequency: low vs. high) × 2 (novelty: existing product vs. new product offered by the PLB), replicated for three different products and two private label brands that differed on brand familiarity (low vs. high). The order of presentation was counterbalanced. Experiment 3 stimuli consisted of online information for three different products, each offered by a familiar (i.e., Sam's Choice by Walmart) and an unfamiliar (i.e., President's Choice by Loblaws) PLB. Three pretests conducted in experiment 1

were used to select the levels of rating favorability and rating frequency, and to select a familiar and unfamiliar PLB.

Sample and measures. Three-hundred and twenty-four MTurk participants were randomly assigned to one condition in a 2 (unfavorable: 1.5-star rating, favorable: 4.5-star rating) × 2 (rating frequency: low vs. high) × 2 (novelty: existing product, new product for the PLB), replicated for two brands (familiar: Sam's Choice by Walmart, unfamiliar: President's Choice by Loblaws), and three products (i.e., laundry detergent, maple syrup, and salmon fillets). The order of presentation was counterbalanced. After removal of data due to failed attention checks (n = 19), data from three-hundred and five MTurk participants (Mdn_{age} = 41-50 years, 45.25% female, $Mdn_{monthlyincome}$ = 2001-5000 USD per household, $Mdn_{householdsize}$ = 2, $Mdn_{education}$ = undergraduate degree) was analyzed. Participants received 1.50 USD to complete the survey (M_{time} = 13.80 minutes). Similar to experiment 1, the participants were introduced to the concept of a PLB, and were asked to imagine viewing products offered by PLBs online. Next, participants indicated their general attitude toward private labels (Burton, Lichtenstein, Netemeyer, & Garretson, 1998; α = .85) and risk aversion (Donthu & Gilliland, 1996; α = .77); the order of presentation of two scales and items within each scale were randomized. Further, the participants saw three online product advertisements each from Sam's Choice by Walmart and President's Choice by Loblaws, all approximately priced between 15 USD and 22 USD; the order of presentation of ads was randomized. After viewing each product offering, participants responded to the same measures ($\alpha_{product\ attitude}$ = .99, $\alpha_{brand\ attitude}$ = .94, $\alpha_{consumer\ involvement}$ = .94, $\alpha_{product\ involvement}$ = .72, $\alpha_{purchase\ intentions}$ = .99) as used in experiment 1. Next, the participants completed an attention check, and demographic questions, and finally, indicated their general

food preference (i.e., omnivore, pescatarian, vegetarian, vegan/plant-based, other).

Results

After removal of data due to failed attention checks (n = 19), the ANOVA for laundry detergent showed a significant effect of rating favorability on purchase intentions (F(1,608) = 151.614, p < .001), product attitude (F(1,591.224) = 257.6, p < .001), brand attitude (F(1,608) = 147.811, p < .001), and product involvement (F(1,608) = 29.242, p < .001), whereas brand familiarity, and product novelty did not exhibit any significant main effects on purchase intentions for PLBs. These results were consistent across the three products (see Table 10). A mediation analysis (*PROCESS model 10*, 10,000 bootstrap samples; Hayes, 2018) with rating favorability as the predictor, product attitude as a mediator, brand familiarity, and product novelty as moderators, and brand attitude, consumer confidence, product involvement, and rating frequency as the covariates was performed. No significant partial moderated mediation effects of rating favorability on purchase intentions for laundry detergent emerged for brand familiarity (*index* = 0.01, *SE* = 0.02, *95% CI* [-0.04, 0.06]), and product novelty (*index* = 0.01, *SE* = 0.02, *95% CI* [-0.03, 0.06]). This pattern of results was consistent for the two other products (see Table 11). Thus, the indirect effect of rating favorability on purchase intentions that is dependent on brand familiarity and product novelty as moderators was not significant. Across three products offered by two PLBs, there were no significant direct effects of rating favorability on purchase intentions for PLBs at different levels of brand familiarity and product novelty (see Table 12). Furthermore, for laundry detergent, the results revealed a significant indirect effect of rating favorability on purchase intentions for PLBs mediated by product

attitude in all four cases: brand familiarity: low, product novelty: low (*indirect effect* = 0.11, *SE* = 0.03, *95% CI* [0.07, 0.17]); brand familiarity: low, product novelty: high (*indirect effect* = 0.12, *SE* = 0.03, *95% CI* [0.08, 0.18]); brand familiarity: high, product novelty: low (*indirect effect* = 0.12, *SE* = 0.03, *95% CI* [0.07, 0.18]); and brand familiarity: high, product novelty: high (*indirect effect* = 0.13, *SE* = 0.03, *95% CI* [0.08, 0.19]). These findings were consistent with the other two products offered by two PLBs (see Table 13). Thus, hypothesis H3 is supported.

Next, several hypotheses were tested. The rating favorability had no significant direct effect on the purchase intentions for laundry detergent (*effect* = 0.03, *SE* = 0.05, *t* = 0.61, *95% CI* [-0.07, 0.13]), maple syrup (*effect* = 0.01, *SE* = 0.05, *t* = 0.19, *95% CI* [-0.09, 0.11]), and sockeye salmon (*effect* = -0.04, *SE* = 0.05, *t* = -0.85, *95% CI* [-0.14, 0.06]) offered by PLBs. Thus, hypothesis H1 is not supported. For laundry detergent, the interaction effect of rating favorability and brand familiarity (*effect* = -0.03, *SE* = 0.04, *t* = -0.78, *95% CI* [-0.10, 0.04]) and the interaction effect of rating favorability and product novelty (*effect* = -0.06, *SE* = 0.04, *t* = -1.47, *95% CI* [-0.13, 0.02]) on purchase intentions for PLBs were not found to be significant. These findings were consistent with the other two products, and hence, hypotheses H5 and H7 are not supported. Finally, for laundry detergent, the interaction effect of rating favorability and brand familiarity (*effect* = 0.01, *SE* = 0.04, *t* = 0.31, *95% CI* [-0.06, 0.09]) and the interaction effect of rating favorability and product novelty (*effect* = 0.02, *SE* = 0.04, *t* = 0.58, *95% CI* [-0.05, 0.10]) on product attitude for PLBs were not found to be significant. These findings were consistent with the other two products, and hence, hypotheses H6 and H8 are not supported.

Discussion

Experiment 3 revealed that rating favorability has no significant direct effect on purchase intentions for products offered by PLBs. Thus, hypothesis H1 could not be supported. Furthermore, using data for three different private label products at two different levels of brand familiarity and product novelty, no significant interaction effects emerged for the impact of rating favorability × brand familiarity, and rating favorability × product novelty on purchase intentions for PLBs. Therefore, hypotheses H5 and H7 could not be supported. Also, no significant interaction effects emerged for the impact of rating favorability × brand familiarity, and rating favorability × product novelty on product attitude towards PLBs, and hence, hypotheses H6 and H8 could not be supported. Further, we expected that product attitude mediates the effect of rating favorability on purchase intentions for PLBs such that more favorable ratings are associated with more favorable product attitude, and subsequently, with increased purchase intentions for PLBs. Our findings support hypothesis H3. However, the results of experiment 3 indicate that this mediation effect is not conditional upon different levels of brand familiarity and product novelty; such findings are contrary to our expectations. Thus, experiment 3 results indicate that consumers don't perceive any risk implications associated with less familiar private labels or novel products offered by PLBs, and hence, consumer purchase intentions as well as product attitude do not get influenced by the second-hand information (i.e., rating favorability) available online. This is an interesting finding for consumer-packaged goods offered by PLBs, especially considering a higher frequency of purchase associated with these products. We controlled for any potential influence of extraneous variables such as consumer confidence, and product involvement, and hence, ruled out possible alternative explanations.

Conclusion and Implications

For both inexpensive (experiment 1) and more expensive (experiment 2, experiment 3) private label products, there was no significant direct effect of rating favorability on purchase intentions, and no significant interaction effects of rating favorability (involving rating frequency, brand familiarity, product novelty) on purchase intentions and product attitude towards PLBs. The finding that for private labels, rating frequency does not influence consumers' purchase intention is contrary to previous findings (Park, Lee, & Han, 2007; Chevalier & Mayzlin, 2006) involving experience products (Cui, Lui, & Guo, 2012). Furthermore, no interaction effect involving rating frequency, brand familiarity, and product novelty as moderators in the impact of rating favorability on purchase intentions for PLBs seems counterintuitive and contradicts previous findings. PLBs are different from national brands in that these brands are retailer brands and are usually bought in-store. Therefore, there may be very little quality-related uncertainty even with an unfamiliar brand or a novel product offered by a PLB. That may account for some unexpected results for PLBs with reference to rating frequency, brand familiarity, and product novelty. The current research suggests that private label brands differ with reference to the direct and indirect effects of rating favorability on purchase intentions. Future research into the generalizability of these findings to other product categories (e.g., apparel, electronic consumer durables, and pharmaceutical products) and a comparison to national brands may be fruitful.

Theoretical Implications

The current research contributes to select areas in the marketing, consumer behavior, and information processing literature. Our findings contribute to the existing literature by providing

explanations for the observed effects of rating favorability on purchase intentions of PLBs based on the elaboration likelihood model's peripheral route of information processing. The findings reveal information processing involving low effort and the decision-making being largely influenced by rating favorability rather than increased cognitive processing involving high effort and the effects of other similar cues (e.g. rating frequency). Drawing from the signaling theory, online reviews are indicative of the perceived (unobservable) product quality (Amblee & Bui, 2011) and expected to influence consumer decision-making through a cumulative (additive) effect by including other similar signals (e.g. review valence, volume, etc.) (Maslowska, Malthouse, & Viswanathan, 2017). Also, it is expected that consumer purchase decisions are driven by conformity effects, and a higher rating frequency plays a significant role in support of such effects. The finding that for private labels, rating frequency does not influence consumers' purchase intention is contrary to previous findings (Park, Lee, & Han, 2007; Chevalier & Mayzlin, 2006) involving experience products (Cui, Lui, & Guo, 2012). Although, we expected a significant moderating role of rating frequency (Zablocki, Schlegelmilch, & Houston, 2019; Maslowska et al., 2017; Lee, Park, & Han, 2008), brand familiarity (Ruiz-Equihua, Romero, & Casaló Luis, 2020; Sundaram & Webster, 1999), and product novelty (Plotkina & Munzel, 2014) in the impact of rating favorability on purchase intentions for PLBs; however, the results obtained using data for consumer-packaged goods offered by PLBs prove otherwise. Hence, our findings have theoretical implications for decision-making and information processing literature, especially in the context of purchase decisions for consumer-packaged goods and other similar low-priced products that particularly involve less effortful decision-making, high purchase frequency, and low risk implications.

Practical Implications

The current research contributes at three different levels: industry, product, and consumer. From a macro perspective, our findings provide useful insights to players in the retail industry about ways to make effective use of the rating-related information presented to consumers online, and obtain desired outcomes in favor of private label brands. Our research suggests that new products (consumer-packaged goods) launched by PLBs and private labels characterized by low brand familiarity could gain from favorable ratings for their products through development of a favorable product attitude; the rating frequency, degree of brand familiarity, and product novelty do not play any significant role in influencing consumer purchase-related decision-making. Thus, despite the low brand familiarity or the product being novel, retailers need to target achieving and maintaining a higher degree of positive valence resulting in higher perceived rating favorability that leads to favorable product attitude, and subsequently, increased purchase intentions for PLBs. At a product-level, our research suggests that marketers of PLBs need to examine and understand the differential impact of quantitative review characteristics (e.g. rating favorability, rating frequency) on product attitude, and purchase intentions. From experiment 1 and experiment 2 findings, a significant conditional indirect effect of rating favorability on purchase intentions for PLBs is evident for food products only at a high rating frequency; however, similar effects for non-food products emerged across different rating frequencies. The product involvement level as well as the risk implications associated with different product categories (e.g. consumer packaged goods, apparels, household appliances, health and beauty) vary, and hence, it is critical for marketers to understand the direct and indirect effects of review-related quantitative information on variables of interest (e.g. product attitude, purchase intentions). Comparing the findings across three experiments, we could infer that both economy and premium private labels show similar effects of rating favorability on purchase intentions. Furthermore, select product categories (e.g. consumer-packaged goods)

for which the effects of rating favorability on product attitude are significantly positive, could be identified and the outcome variables other than purchase intentions be examined and targeted appropriately by marketers to favor product-level purchase decisions. At a micro-level, our research contributes to consumer-level purchase decisions, and helps us understand the processes and theoretical framework underlying the effects discussed. Three experimental studies provide converging evidence of an effect of rating favorability on purchase intentions for private label products that is fully mediated by product attitude; this information holds managerial significance. Finally, our findings shall help private labels in addressing the challenges associated with achieving a favorable product attitude and increased purchase intentions.

Limitations and Future Research

The current study has several limitations. First, our research did not compare the direct and indirect effects of rating favorability on purchase intentions for economy with those for premium PLBs. Most retailers have multi-tiered portfolios comprising products with varying price and quality levels (Bodur, Tofighi, & Grohmann, 2016), and hence, a relative comparison of their effects using a within-participant design can provide useful insights. Although we used an economy private label (Great Value by Walmart) in experiment 1 and a premium private label (e.g., Sam's Choice by Walmart) in experiment 3, however, no single experiment was designed to perform a relative comparison of different tiers of brands offered by a PLB. Second, this research did not compare the PLBs offering a single unique brand (e.g., Costco) with others offering multiple brands (e.g., Walmart) for the effects examined across three experiments. It would be interesting to examine differences, if any, in the consumer perceptions about the several variables of interest such as purchase intentions, and product attitude towards PLBs.

Third, few variables such as additional shipment costs, delivery time and mode options, product availability, and promotional offers play a significant role in shaping product attitude, and purchase intentions of consumers, and hence, apply to PLBs as well. The current research ignored these variables; however, future research could examine the roles of these variables, especially as potential moderators for rating favorability effects on purchase intentions for PLBs. Fourth, future research should also differentiate between first time and repeat purchases for PLBs in terms of the direct and indirect effects examined in this research. Past research has extensively examined experience products (e.g., movies, books, etc.) in the said context. Fifth, this study did not differentiate high-conformity individuals from others with reference to a tendency of the former to comply with the majority, and also, did not consider the situational factors related to conformity (Allen, 1965). Sixth, due to time and resource constraints, we could not consider a wide range of products (e.g., electronic goods, household appliances, health, and beauty products, etc.) offered by private labels. Considering the varying levels of product involvement and differences in risk implications associated with different product categories, it is expected that our findings based on consumer packaged goods offered by PLBs would differ from those for other product categories that involve higher purchase risks (e.g., pharmaceutical products) and relatively more consumer involvement (e.g., personal healthcare products). For such products, we further speculate that brand familiarity, and more so brand image and equity would strongly influence purchase intentions for PLBs. Future studies based on experimental research involving search goods across a wide range of product categories and offered by both private labels and national brands could contribute significantly to the existing body of knowledge about the effects of quantitative characteristics of reviews on purchase intentions and explanations for underlying processes based on theoretical underpinnings.

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Tables

Table 1

*Comparison of Private Label Brands based on Familiarity**

Brand	*N*	*M*	*SD*	*t*	*df*	*p*	95% CI [LL, UL]
Great Value**	42	5.34	2.06	7.45	42	0.000	**[1.71, 2.98]**
Sam's Choice**	47	4.73	2.22	5.40	47	0.000	**[1.09, 2.37]**
Equate**	43	3.95	2.46	2.56	43	0.014	**[0.20, 1.69]**
Mainstays	42	3.15	2.13	0.45	42	0.652	[-0.51, 0.80]
Pen+Gear**	46	1.71	1.51	-5.88	46	0.000	**[-1.73, -0.85]**
Homelines**	43	1.45	1.28	-8.02	43	0.000	**[-1.94, -1.16]**
Athletic Works**	46	1.91	1.66	-4.48	46	0.000	**[-1.57, -0.60]**
Kirkland Signature**	38	4.13	2.11	3.34	38	0.002	**[0.44, 1.81]**
no name**	42	1.50	1.41	-6.93	42	0.000	**[-1.93, -1.06]**
President's Choice**	43	1.40	1.26	-8.41	43	0.000	**[-1.98, -1.22]**
Joe Fresh**	44	1.57	1.10	-8.68	44	0.000	**[-1.76, -1.10]**
Hampton Bay	40	2.98	1.96	-0.05	40	0.958	[-0.64, 0.60]
Husky	41	2.75	1.94	-0.85	41	0.401	[-0.86, 0.35]
HDX**	40	1.63	1.35	-6.46	40	0.000	**[-1.79, -0.94]**
Alfani**	34	1.91	1.84	-3.50	34	0.001	**[-1.72, -0.46]**
American Rag**	38	1.66	1.26	-6.65	38	0.000	**[-1.75, -0.93]**
Bar III**	41	1.47	1.12	-8.87	41	0.000	**[-1.88, -1.18]**
CVS Health**	41	5.71	1.45	12.17	41	0.000	**[2.26, 3.16]**
Radiance**	43	1.35	1.03	-10.59	43	0.000	**[-1.97, -1.34]**
Beauty 360**	41	1.58	1.22	-7.55	41	0.000	**[-1.8, -1.04]**
Gold Emblem**	42	1.88	1.65	-4.43	42	0.000	**[-1.63, -0.61]**
Total Home**	46	1.65	1.48	-6.26	46	0.000	**[-1.79, -0.92]**
Renewal**	42	1.20	0.72	-16.37	42	0.000	**[-2.02, -1.58]**
Rite Aid Pharmacy**	43	4.86	1.93	6.37	43	0.000	**[1.27, 2.44]**

** significant at $p < .05$

* one-sample t-test (test value = 3)

Note: *N* = sample size, *M* = mean, *SD* = standard deviation, *df* = degrees of freedom, CI = confidence interval.

Table 2

Experiment 1: ANOVA results

		Rating Favorability (main effect)				Rating Frequency (main effect)			
		df1	*df2*	*F*	*p*	*df1*	*df2*	*F*	*p*
FFO	PA	1	265.654	33.948	.000*	2	277	1.179	.309
	BA	1	267.664	23.030	.000*	2	277	0.321	.726
	CC	1	278.000	3.069	.081	2	277	2.061	.129
	PI	1	278.000	3.916	.049	2	277	2.150	.118
	CPI	1	278.000	20.667	.000*	2	277	1.227	.295
LEDB	PA	1	241.709	39.424	.000*	2	277	0.899	.408
	BA	1	261.499	24.825	.000*	2	277	1.327	.267
	CC	1	278.000	1.157	.283	2	277	0.073	.929
	PI	1	274.235	6.464	.012	2	277	1.975	.141
	CPI	1	264.768	28.184	.000*	2	277	1.767	.173
LJ	PA	1	254.618	30.112	.000*	2	277	0.190	.827
	BA	1	270.115	25.411	.000*	2	277	0.563	.570
	CC	1	278.000	2.009	.157	2	277	1.597	.204
	PI	1	278.000	5.339	.022	2	277	0.312	.732
	CPI	1	272.000	27.136	.000*	2	277	0.160	.852
Milk	PA	1	271.437	17.760	.000*	2	277	0.095	.909
	BA	1	273.989	12.513	.000*	2	277	0.019	.981
	CC	1	278.000	0.579	.447	2	277	0.592	.554
	PI	1	278.000	1.552	.214	2	277	0.157	.885
	CPI	1	278.000	11.857	.001*	2	277	0.540	.583
PP	PA	1	274.074	17.941	.000*	2	277	1.274	.281
	BA	1	278.000	10.869	.001*	2	277	1.301	.274
	CC	1	278.000	2.591	.109	2	277	0.366	.694
	PI	1	278.000	2.577	.110	2	277	1.736	.178
	CPI	1	278.000	11.392	.001*	2	277	0.565	.569

* main effect is significant at $p < .01$

Note: FFO = French fried onions, LEDB = LED bulb, LJ = Lemon juice, PP = Paper plates, PA = product attitude, BA = brand attitude, CC = consumer confidence, PI = product involvement, CPI = consumer purchase intentions, *df* = degrees of freedom.

Table 3

*Experiment 1: PROCESS model 8 results: Moderated Mediation Effects on Purchase Intentions**

(Difference between Conditional Indirect Effects)

		Index	*SE*	95% CI [LL, UL]
FFO	W1	-0.020	0.045	[-.12, .06]
	W2	0.073	0.052	[-.02, .19]
LEDB	W1	0.091	0.053	[-.01, .20]
	W2	0.089	0.052	[-.01, .20]
LJ	W1	0.022	0.061	[-.10, .14]
	W2	0.073	0.061	[-.04, .19]
Milk	W1	-0.019	0.050	[-.12, .08]
	W2	0.035	0.052	[-.07, .15]
PP	W1	-0.009	0.055	[-.14, .09]
	W2	-0.032	0.056	[-.15, .08]

* mediation analysis (10,000 bootstrap samples; Hayes, 2018), predictor: rating favorability, mediator: product attitude, moderator: rating frequency, covariates: brand attitude, consumer confidence and product involvement

Note:

i. FFO = French fried onions, LEDB = LED bulb, LJ = Lemon juice, PP = Paper plates, *SE* = standard error (bootstrapped), CI = confidence interval (bootstrapped), LL = lower-limit, UL = upper limit.

ii. Coding of rating frequency (W) for analysis:

Rating frequency	W1	W2
Low	0	0
Moderate	1	0
High	0	1

Table 4

*Experiment 1: PROCESS model 8 results: Conditional Direct Effects of Rating Favorability on Purchase Intentions**

	Rating Frequency	Direct Effect	$SE(HC_4)$	*t*	*p*	95% CI [LL, UL]
FFO	Low	0.087	0.125	0.695	0.488	[-.16, .33]
	Moderate	-0.026	0.102	-0.258	0.797	[-.23, .18]
	High	0.221**	0.110	2.013	0.045	**[.01, .44]**
LEDB	Low	0.077	0.081	0.946	0.345	[-.08, .24]
	Moderate	-0.002	0.091	-0.017	0.986	[-.18, .18]
	High	0.018	0.084	0.219	0.827	[-.15, .18]
LJ	Low	0.130	0.105	1.241	0.216	[-.08, .34]
	Moderate	0.004	0.118	0.037	0.970	[-.23, .24]
	High	0.184	0.097	1.905	0.058	[-.01, .37]
Milk	Low	0.164	0.124	1.321	0.187	[-.08, .41]
	Moderate	0.291**	0.138	2.118	0.035	**[.02, .56]**
	High	-0.144	0.110	-1.313	0.190	[-.36, .07]
PP	Low	-0.027	0.120	-0.222	0.824	[-.26, .21]
	Moderate	0.018	0.127	0.139	0.889	[-.23, .27]
	High	0.138	0.104	1.327	0.186	[-.07, .34]

** direct effect is significant at $p < .05$

* mediation analysis (10,000 bootstrap samples; Hayes, 2018), predictor: rating favorability, mediator: product attitude, moderator: rating frequency, covariates: brand attitude, consumer confidence and product involvement

Note: FFO = French fried onions, LEDB = LED bulb, LJ = Lemon juice, PP = Paper plates, $SE(HC_4)$ = standard error (Cribari-Neto, 2004), CI = confidence interval, LL = lower-limit, UL = upper limit.

Table 5

*Experiment 1: PROCESS model 8 results: Conditional Indirect Effects of Rating Favorability on Purchase Intentions**

	Rating Frequency	Indirect Effect	*SE*	95% CI [LL, UL]
FFO	Low	0.049	0.037	[-.01, .13]
	Moderate	0.029	0.031	[-.03, .09]
	High**	0.122	0.052	**[.04, .24]**
LEDB	Low	0.020	0.036	[-.05, .10]
	Moderate**	0.111	0.040	**[.04, .20]**
	High**	0.109	0.041	**[.04, .20]**
LJ	Low	0.030	0.047	[-.05, .13]
	Moderate	0.052	0.044	[-.03, .15]
	High**	0.104	0.050	**[.02, .21]**
Milk	Low	0.044	0.040	[-.03, .13]
	Moderate	0.025	0.036	[-.04, .11]
	High**	0.079	0.043	**[.01, .17]**
PP	Low**	0.073	0.041	**[.00, .17]**
	Moderate	0.063	0.042	[-.02, .15]
	High	0.040	0.043	[-.04, .14]

** indirect effect is significant at 5% significance level

* mediation analysis (10,000 bootstrap samples; Hayes, 2018), predictor: rating favorability, mediator: product attitude, moderator: rating frequency, covariates: brand attitude, consumer confidence and product involvement

Note: FFO = French fried onions, LEDB = LED bulb, LJ = Lemon juice, PP = Paper plates, *SE* = standard error (bootstrapped), CI = confidence interval (bootstrapped), LL = lower-limit, UL = upper limit.

Table 6

Experiment 2: ANOVA results

		Rating Favorability (main effect)				Rating Frequency (main effect)			
		df1	*df2*	*F*	*p*	*df1*	*df2*	*F*	*p*
DD	PA	1	144.582	117.461	.000*	1	176	0.997	.319
	BA	1	167.343	61.874	.000*	1	176	0.374	.541
	CC	1	155.261	0.730	.394	1	176	0.035	.852
	PI	1	176.000	8.658	.004*	1	176	0.352	.554
	CPI	1	176.000	74.170	.000*	1	176	0.273	.602
MN	PA	1	160.540	70.534	.000*	1	176	0.177	.674
	BA	1	163.979	49.968	.000*	1	176	0.757	.385
	CC	1	176.000	2.058	.153	1	176	0.202	.654
	PI	1	176.000	7.203	.008*	1	176	0.100	.752
	CPI	1	172.119	30.365	.000*	1	176	0.004	.949
OO	PA	1	147.723	89.514	.000*	1	176	0.247	.620
	BA	1	160.731	56.271	.000*	1	176	0.001	.982
	CC	1	176.000	0.089	.766	1	176	1.059	.305
	PI	1	176.000	12.214	.001*	1	176	0.573	.450
	CPI	1	167.195	71.927	.000*	1	176	0.031	.861
PP	PA	1	166.833	88.062	.000*	1	176	0.707	.402
	BA	1	167.229	58.317	.000*	1	176	0.821	.366
	CC	1	176.000	0.028	.868	1	176	1.120	.291
	PI	1	166.024	1.963	.163	1	176	0.015	.903
	CPI	1	176.000	30.778	.000*	1	176	0.005	.943

* main effect is significant at $p < .01$

Note: DD = Dishwasher detergent, MN = Mixed nuts, OO = Olive oil, PP = Photo paper, PA = product attitude, BA = brand attitude, CC = consumer confidence, PI = product involvement, CPI = consumer purchase intentions, *df* = degrees of freedom.

Table 7

*Experiment 2: PROCESS model 8 results: Moderated Mediation Effects on Purchase Intentions**

(Difference between Conditional Indirect Effects)

	Index	*SE*	95% CI [LL, UL]
DD	-0.013	0.041	[-.11, .06]
MN	0.143	0.086	[-.02, .32]
OO	0.002	0.059	[-.11, .12]
PP	-0.031	0.041	[-.14, .02]

* mediation analysis (10,000 bootstrap samples; Hayes, 2018), predictor: rating favorability, mediator: product attitude, moderator: rating frequency, covariates: brand attitude, consumer confidence and product involvement

Note: DD = Dishwasher detergent, MN = Mixed nuts, OO = Olive oil, PP = Photo paper, *SE* = standard error (bootstrapped), CI = confidence interval (bootstrapped), LL = lower-limit, UL = upper limit.

Table 8

*Experiment 2: PROCESS model 8 results: Conditional Direct Effects of Rating Favorability on Purchase Intentions**

	Rating Frequency	Direct Effect	$SE(HC_4)$	*t*	*p*	95% CI [LL, UL]
DD	Low	0.179	0.187	0.954	0.341	[-.19, .55]
	High	0.348**	0.160	2.169	0.031	**[.03, .67]**
MN	Low	-0.153	0.117	-1.303	0.194	[-.38, .08]
	High	-0.180	0.132	-1.359	0.176	[-.44, .08]
OO	Low	0.065	0.105	0.620	0.536	[-.14, .27]
	High	0.260**	0.123	2.111	0.036	**[.02, .50]**
PP	Low	-0.037	0.148	-0.254	0.800	[-.33, .25]
	High	-0.049	0.138	-0.354	0.724	[-.32, .22]

** direct effect is significant at $p < .05$

* mediation analysis (10,000 bootstrap samples; Hayes, 2018), predictor: rating favorability, mediator: product attitude, moderator: rating frequency, covariates: brand attitude, consumer confidence and product involvement

Note: DD = Dishwasher detergent, MN = Mixed nuts, OO = Olive oil, PP = Photo paper, $SE(HC_4)$ = standard error (Cribari-Neto, 2004), CI = confidence interval, LL = lower-limit, UL = upper limit.

Table 9

*Experiment 2: PROCESS model 8 results: Conditional Indirect Effects of Rating Favorability on Purchase Intentions**

	Rating Frequency	Indirect Effect	*SE*	95% CI [LL, UL]
DD	Low**	0.131	0.084	**[.00, .32]**
	High**	0.118	0.075	**[.00, .29]**
MN	Low	0.126	0.074	[-.01, .29]
	High**	0.269	0.085	**[.12, .45]**
OO	Low**	0.169	0.060	**[.07, .30]**
	High**	0.171	0.063	**[.07, .31]**
PP	Low**	0.094	0.059	**[.00, .23]**
	High**	0.062	0.037	**[.00, .14]**

** indirect effect is significant at 5% significance level

* mediation analysis (10,000 bootstrap samples; Hayes, 2018), predictor: rating favorability, mediator: product attitude, moderator: rating frequency, covariates: brand attitude, consumer confidence and product involvement

Note: DD = Dishwasher detergent, MN = Mixed nuts, OO = Olive oil, PP = Photo paper, *SE* = standard error (bootstrapped), CI = confidence interval (bootstrapped), LL = lower-limit, UL = upper limit.

Table 10

Experiment 3: ANOVA results

		Rating Favorability (main effect)				Brand Familiarity (main effect)				Product Novelty (main effect)			
		df1	*df2*	*F*	*p*	*df1*	*df2*	*F*	*p*	*df1*	*df2*	*F*	*p*
LD	PA	1	591.224	257.600	.000*	1	608	0.028	.868	1	608	0.532	.466
	BA	1	608.000	147.811	.000*	1	608	0.075	.784	1	608	0.034	.854
	CC	1	608.000	1.923	.166	1	608	0.366	.545	1	608	3.135	.077
	PI	1	608.000	29.242	.000*	1	608	0.134	.714	1	608	0.008	.928
	CPI	1	608.000	151.614	.000*	1	608	0.002	.964	1	608	0.009	.925
MS	PA	1	597.127	293.632	.000*	1	608	0.063	.802	1	608	0.005	.946
	BA	1	608.000	142.544	.000*	1	608	0.802	.371	1	608	0.081	.776
	CC	1	608.000	1.048	.306	1	608	1.640	.201	1	608	0.002	.963
	PI	1	608.000	28.137	.000*	1	608	1.989	.159	1	608	1.249	.264
	CPI	1	608.000	141.641	.000*	1	608	0.540	.463	1	608	0.001	.971
S	PA	1	564.966	395.355	.000*	1	608	0.005	.943	1	608	1.938	.164
	BA	1	574.379	266.342	.000*	1	608	0.060	.807	1	608	0.600	.439
	CC	1	578.460	1.275	.259	1	608	0.027	.870	1	608	3.607	.058
	PI	1	608.000	14.850	.000*	1	608	0.001	.979	1	608	3.775	.052
	CPI	1	608.000	183.689	.000*	1	608	0.033	.857	1	608	6.315	.012

* main effect is significant at $p < .01$

Note: LD = Laundry detergent, MS = Maple syrup, S = Salmon, PA = product attitude, BA = brand attitude, CC = consumer confidence, PI = product involvement, CPI = consumer purchase intentions, *df* = degrees of freedom.

Table 11

*Experiment 3: PROCESS model 10 results: Partial Moderated Mediation Effects on Purchase Intentions**

(Difference between Conditional Indirect Effects)

	Moderator	Index	*SE*	95% CI [LL, UL]
LD	BF	0.007	0.023	[-.04, .06]
	PN	0.013	0.023	[-.03, .06]
MS	BF	0.004	0.025	[-.05, .05]
	PN	-0.020	0.025	[-.07, .03]
S	BF	-0.031	0.034	[-.10, .03]
	PN	-0.030	0.034	[-.10, .04]

* mediation analysis (10,000 bootstrap samples; Hayes, 2018), predictor: rating favorability, mediator: product attitude, moderators: brand familiarity and product novelty, covariates: brand attitude, consumer confidence, product involvement, and rating frequency.

Note: LD = Laundry detergent, MS = Maple syrup, S = Salmon, BF = Brand Familiarity, PN = Product Novelty, *SE* = standard error (bootstrapped), CI = confidence interval (bootstrapped), LL = lower-limit, UL = upper limit.

Table 12

*Experiment 3: PROCESS model 10 results: Conditional Direct Effects of Rating Favorability on Purchase Intentions**

	BF	PN	Direct Effect	*SE(HC₄)*	*t*	*p*	95% CI [LL, UL]
LD	Low	Low	0.116	0.072	1.597	0.111	[-.03, .26]
	Low	High	0.005	0.079	0.057	0.954	[-.15, .16]
	High	Low	0.057	0.072	0.791	0.429	[-.09, .20]
	High	High	- 0.054	0.069	-0.778	0.437	[-.19, .08]
MS	Low	Low	0.050	0.075	0.669	0.504	[-.10, .20]
	Low	High	0.081	0.073	1.101	0.271	[-.06, .23]
	High	Low	-0.061	0.080	-0.761	0.447	[-.22, .10]
	High	High	-0.030	0.073	-0.415	0.678	[-.17, .11]
S	Low	Low	-0.128	0.079	-1.624	0.105	[-.28, .03]
	Low	High	-0.037	0.067	-0.551	0.582	[-.17, .10]
	High	Low	-0.047	0.073	-0.638	0.524	[-.19, .10]
	High	High	0.044	0.074	0.0591	0.554	[-.10, .19]

** direct effect is significant at $p < .05$

* mediation analysis (10,000 bootstrap samples; Hayes, 2018), predictor: rating favorability, mediator: product attitude, moderators: brand familiarity and product novelty, covariates: brand attitude, consumer confidence, product involvement, and rating frequency.

Note: LD = Laundry detergent, MS = Maple syrup, S = Salmon, BF = Brand Familiarity, PN = Product Novelty, *SE(HC₄)* = standard error (Cribari-Neto, 2004), CI = confidence interval, LL = lower-limit, UL = upper limit.

Table 13

*Experiment 3: PROCESS model 10 results: Conditional Indirect Effects of Rating Favorability on Purchase Intentions**

	BF	PN	Indirect Effect	*SE*	95% CI [LL, UL]
LD	Low	Low	0.110**	0.026	**[.07, .17]**
	Low	High	0.123**	0.027	**[.08, .18]**
	High	Low	0.117**	0.029	**[.07, .18]**
	High	High	0.130**	0.029	**[.08, .19]**
MS	Low	Low	0.164**	0.034	**[.10, .24]**
	Low	High	0.145**	0.035	**[.08, .22]**
	High	Low	0.169**	0.033	**[.11, .24]**
	High	High	0.149**	0.035	**[.09, .22]**
S	Low	Low	0.236**	0.041	**[.16, .32]**
	Low	High	0.206**	0.038	**[.14, .29]**
	High	Low	0.205**	0.039	**[.14, .29]**
	High	High	0.175**	0.036	**[.11, .25]**

** indirect effect is significant at $p < .05$

* mediation analysis (10,000 bootstrap samples; Hayes, 2018), predictor: rating favorability, mediator: product attitude, moderators: brand familiarity and product novelty, covariates: brand attitude, consumer confidence, product involvement, and rating frequency.

Note: LD = Laundry detergent, MS = Maple syrup, S = Salmon, BF = Brand Familiarity, PN = Product Novelty, *SE* = standard error (bootstrapped), CI = confidence interval (bootstrapped), LL = lower-limit, UL = upper limit.

Exhibits

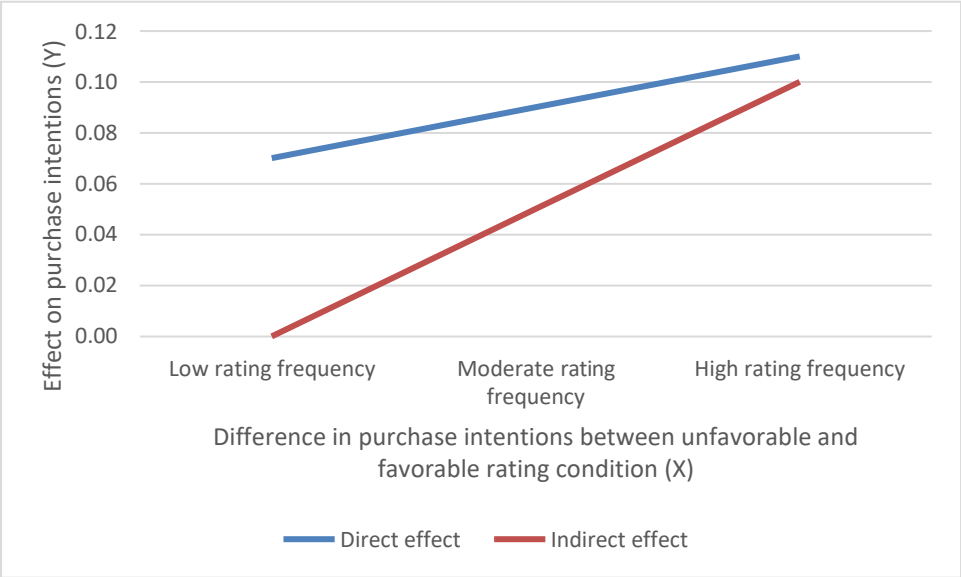

Figure 1. Moderated mediation effect on purchase intentions (Experiment 1) for French fried onions from Great Value by Walmart.

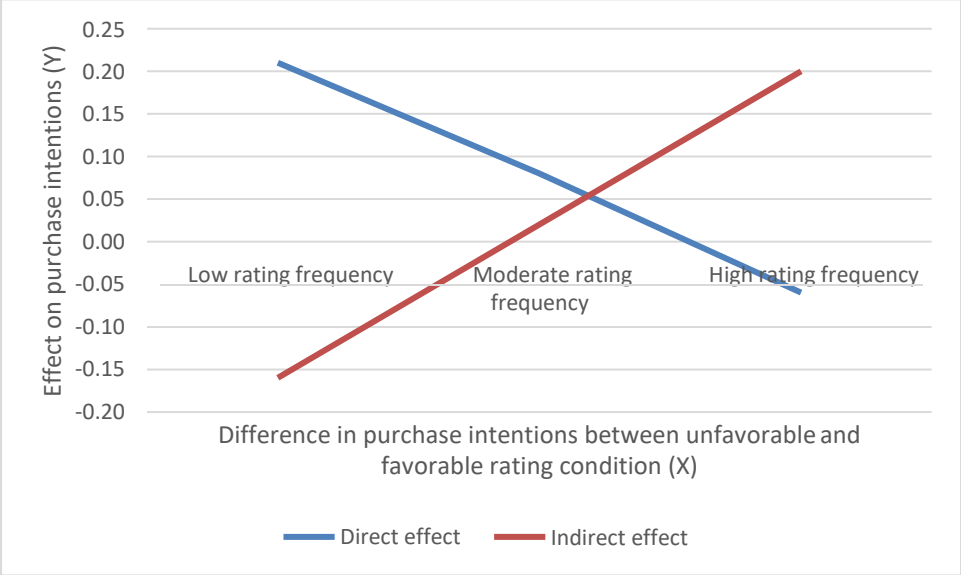

Figure 2. Moderated mediation effect on purchase intentions (Experiment 1) for LED bulb from Great Value by Walmart.

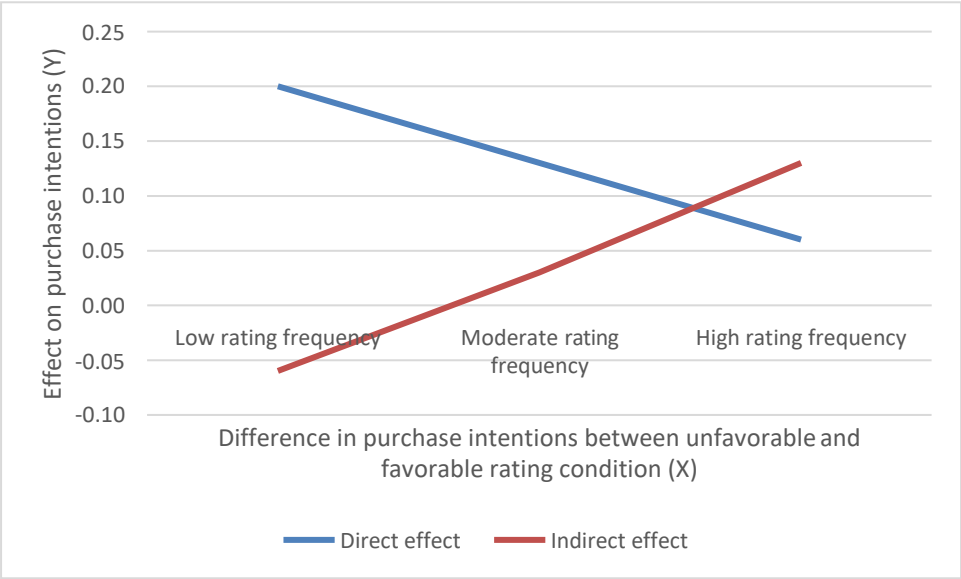

Figure 3. Moderated mediation effect on purchase intentions (Experiment 1) for lemon juice from Great Value by Walmart.

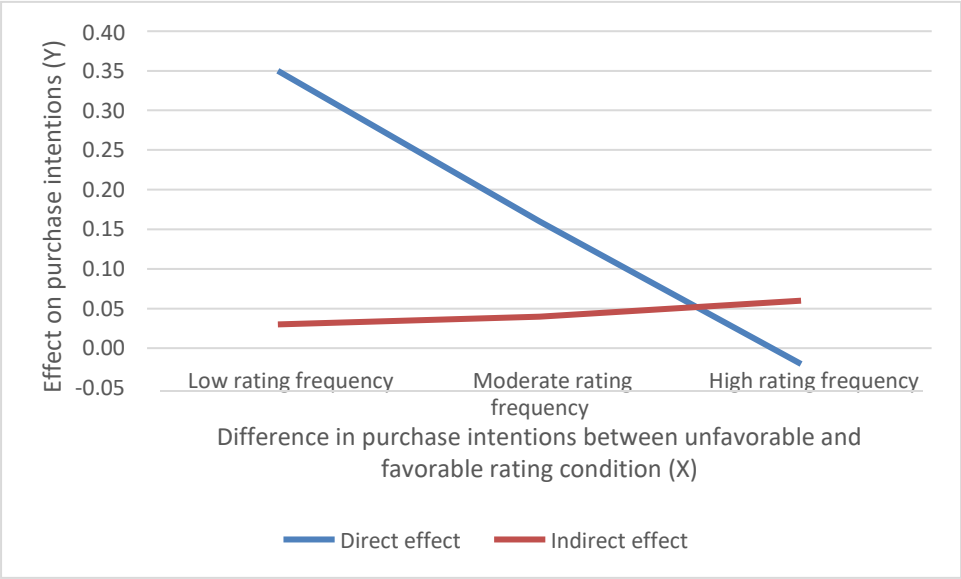

Figure 4. Moderated mediation effect on purchase intentions (Experiment 1) for chocolate milk from Great Value by Walmart.

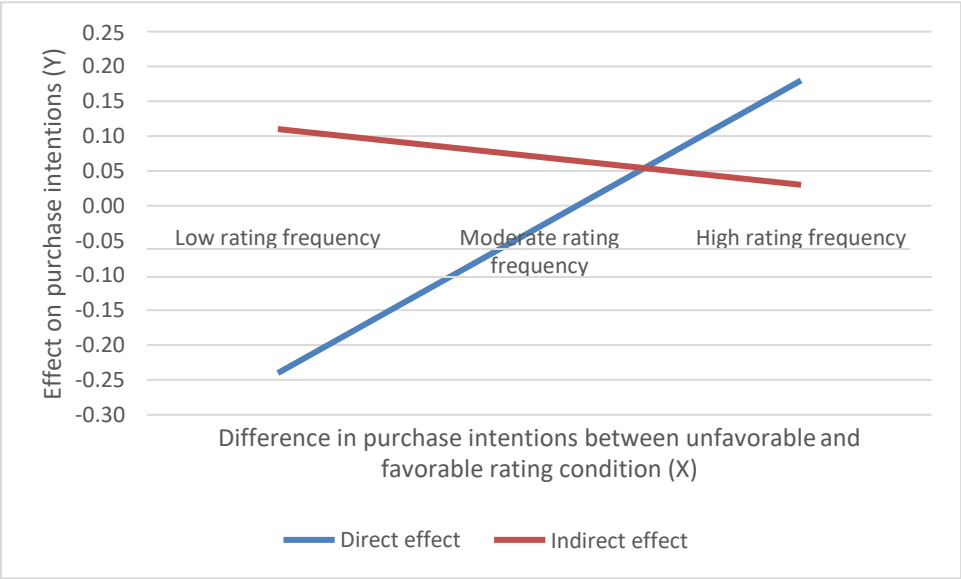

Figure 5. Moderated mediation effect on purchase intentions (Experiment 1) for paper plates from Great Value by Walmart.

Figure 6. The interaction effect of rating favorability and rating frequency on purchase intentions (Experiment 1) for French fried onions from Great Value by Walmart.

Figure 7. The interaction effect of rating favorability and rating frequency on product attitude (Experiment 1) towards French fried onions from Great Value by Walmart.

Figure 8. The interaction effect of rating favorability and rating frequency on purchase intentions (Experiment 1) for LED bulb from Great Value by Walmart.

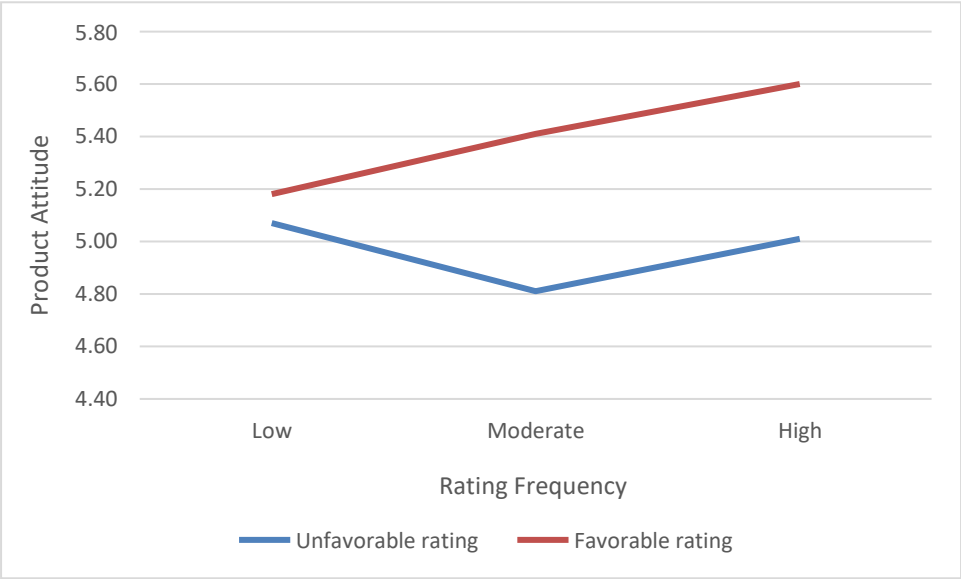

Figure 9. The interaction effect of rating favorability and rating frequency on product attitude (Experiment 1) towards LED bulb from Great Value by Walmart.

Figure 10. The interaction effect of rating favorability and rating frequency on purchase intentions (Experiment 1) for lemon juice from Great Value by Walmart.

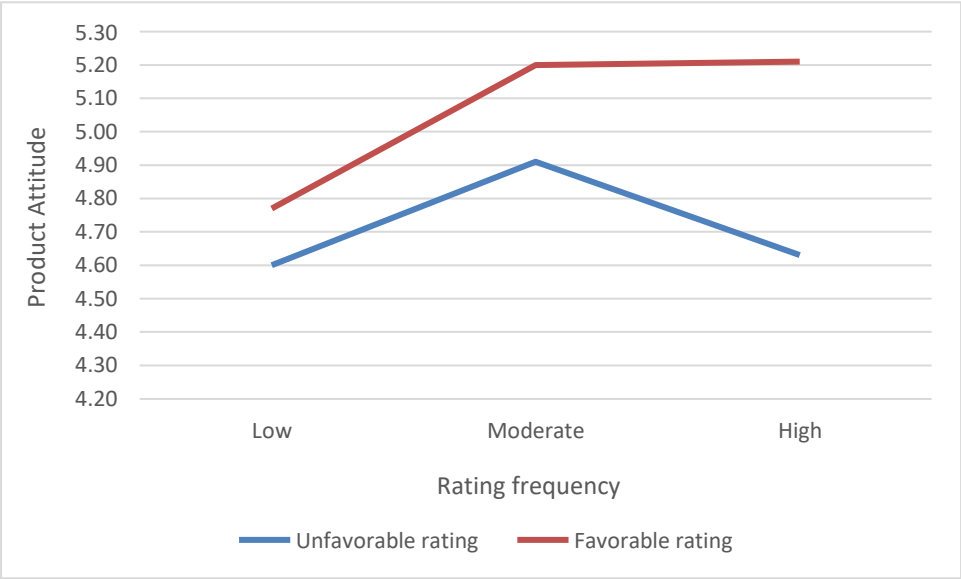

Figure 11. The interaction effect of rating favorability and rating frequency on product attitude (Experiment 1) towards lemon juice from Great Value by Walmart.

Figure 12. The interaction effect of rating favorability and rating frequency on purchase intentions (Experiment 1) for chocolate milk from Great Value by Walmart.

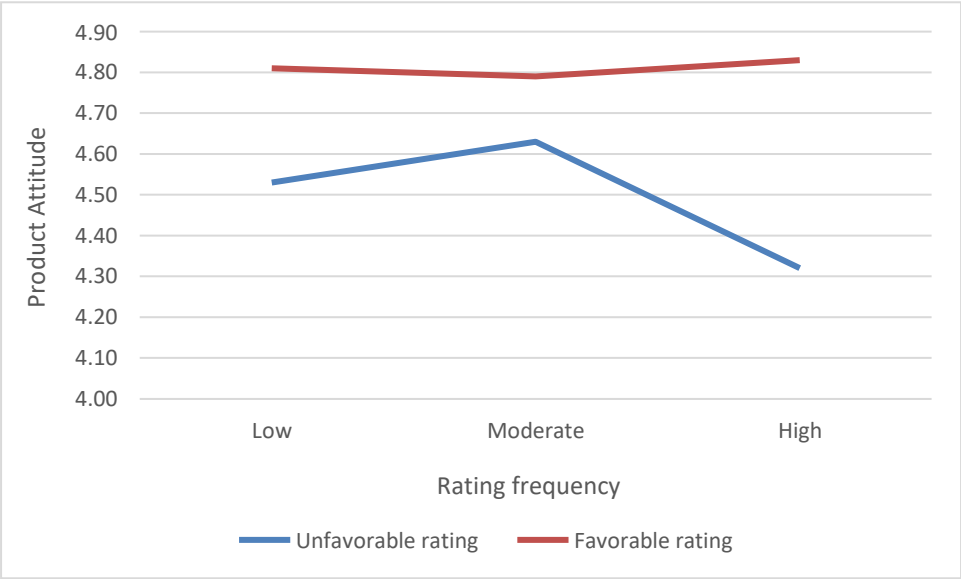

Figure 13. The interaction effect of rating favorability and rating frequency on product attitude (Experiment 1) towards chocolate milk from Great Value by Walmart.

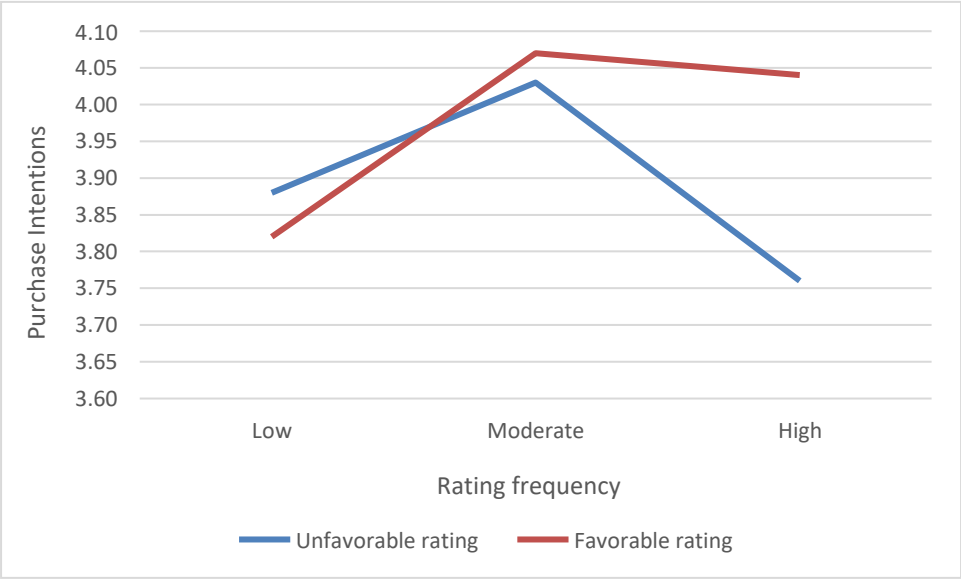

Figure 14. The interaction effect of rating favorability and rating frequency on purchase intentions (Experiment 1) for paper plates from Great Value by Walmart.

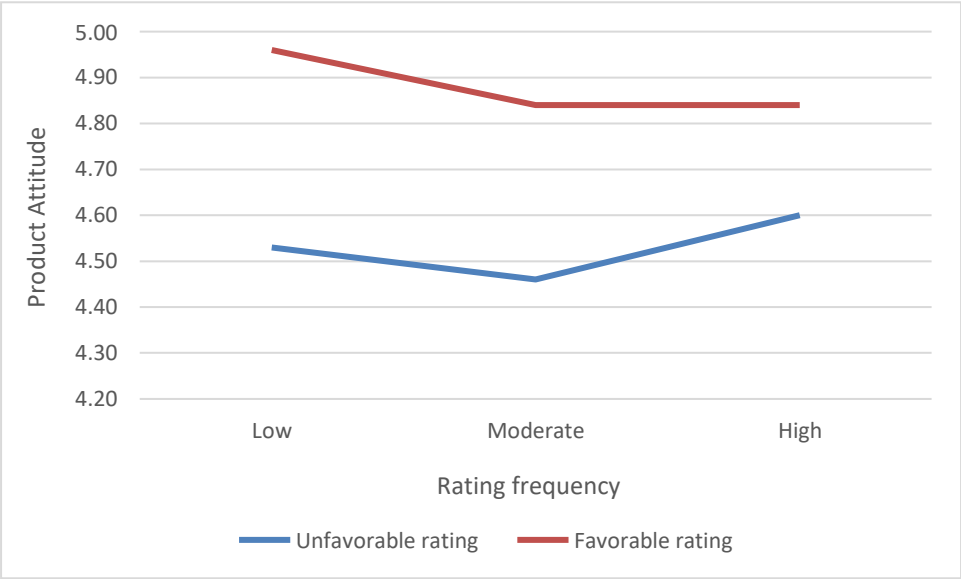

Figure 15. The interaction effect of rating favorability and rating frequency on product attitude (Experiment 1) towards paper plates from Great Value by Walmart.

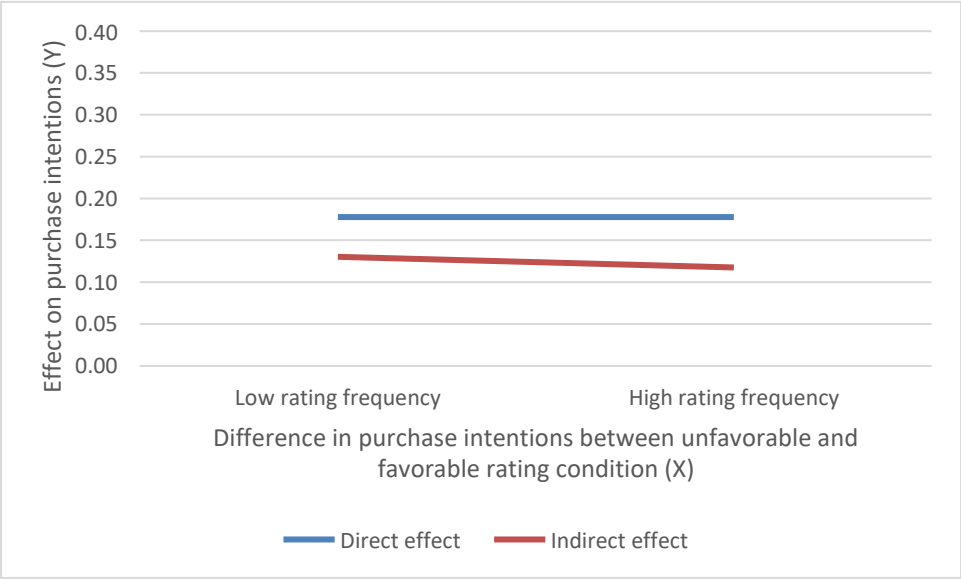

Figure 16. Moderated mediation effect on purchase intentions (Experiment 2) for dishwasher detergent from Kirkland Signature by Costco.

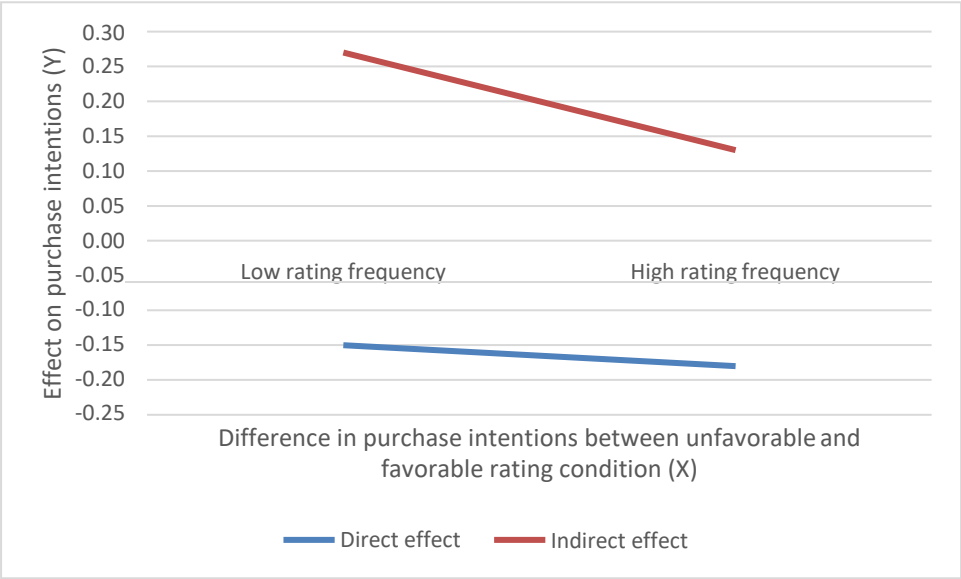

Figure 17. Moderated mediation effect on purchase intentions (Experiment 2) for mixed nuts from Kirkland Signature by Costco.

Figure 18. Moderated mediation effect on purchase intentions (Experiment 2) for olive oil from Kirkland Signature by Costco.

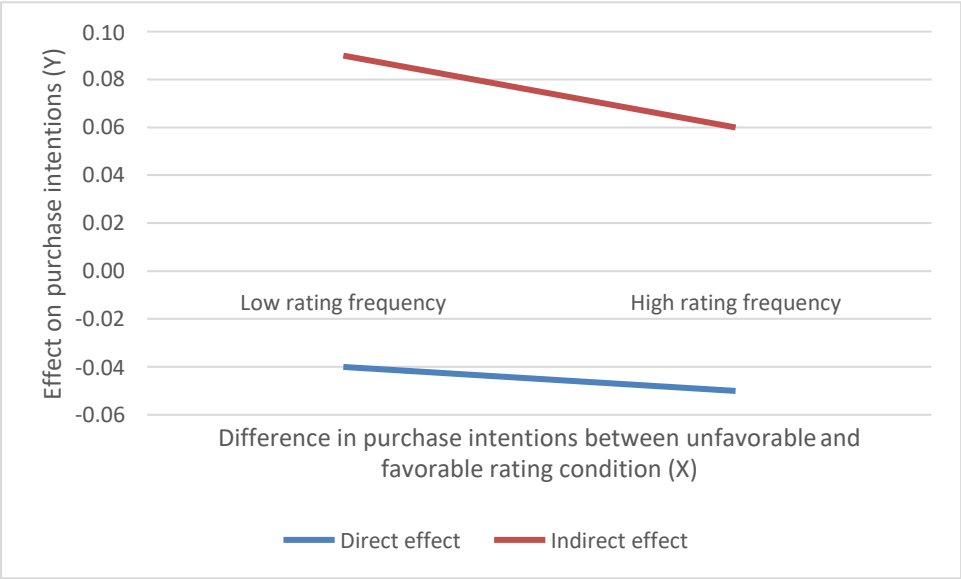

Figure 19. Moderated mediation effect on purchase intentions (Experiment 2) for photo paper from Kirkland Signature by Costco.

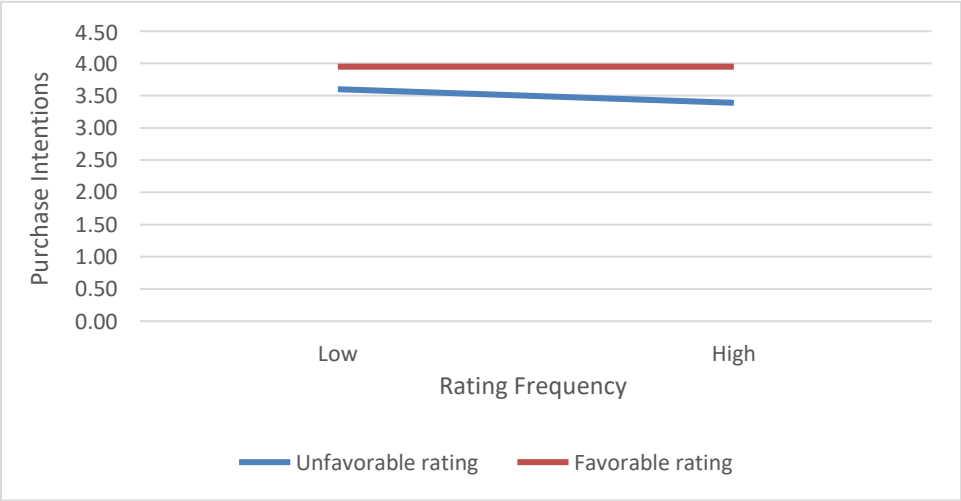

Figure 20. The interaction effect of rating favorability and rating frequency on purchase intentions (Experiment 2) for dishwasher detergent from Kirkland Signature by Costco.

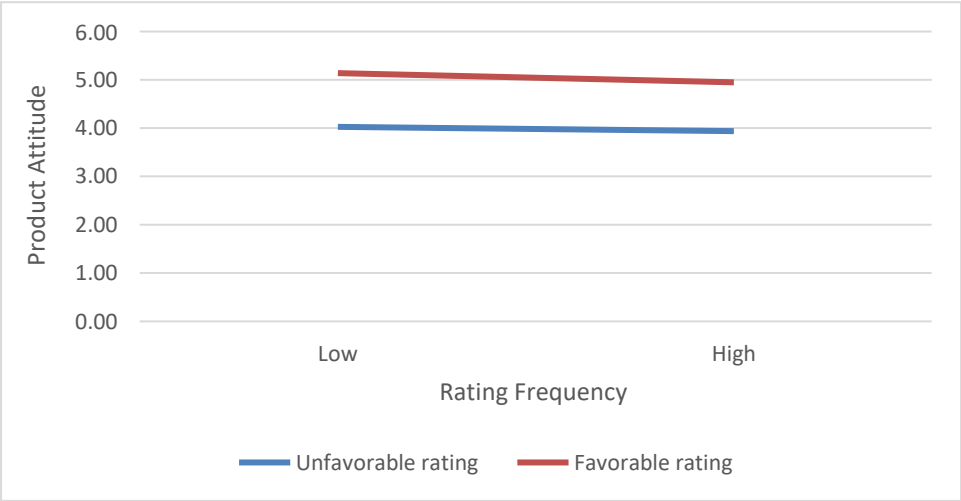

Figure 21. The interaction effect of rating favorability and rating frequency on product attitude (Experiment 2) towards dishwasher detergent from Kirkland Signature by Costco.

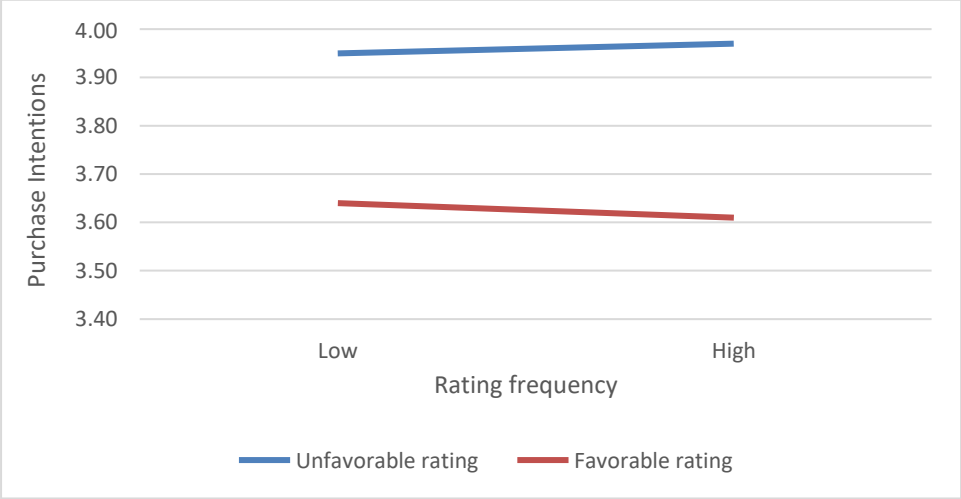

Figure 22. The interaction effect of rating favorability and rating frequency on purchase intentions (Experiment 2) for mixed nuts from Kirkland Signature by Costco.

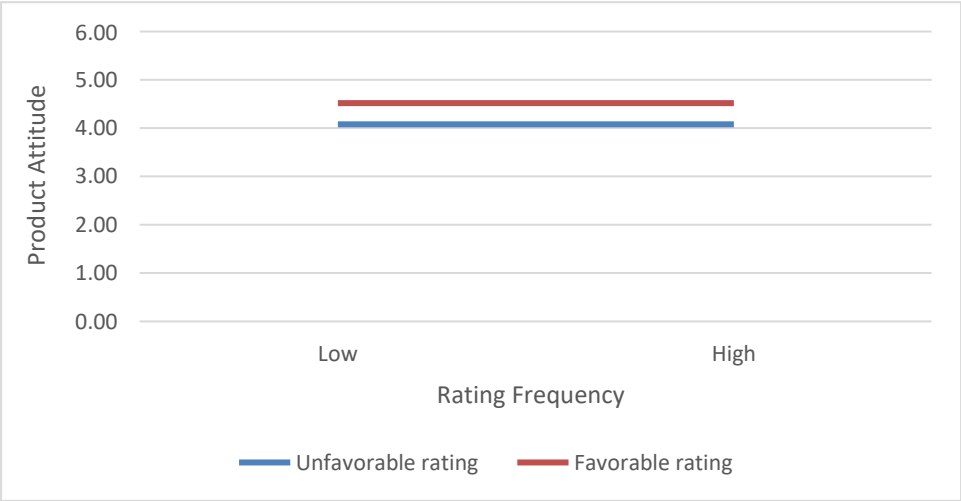

Figure 23. The interaction effect of rating favorability and rating frequency on product attitude (Experiment 2) towards mixed nuts from Kirkland Signature by Costco.

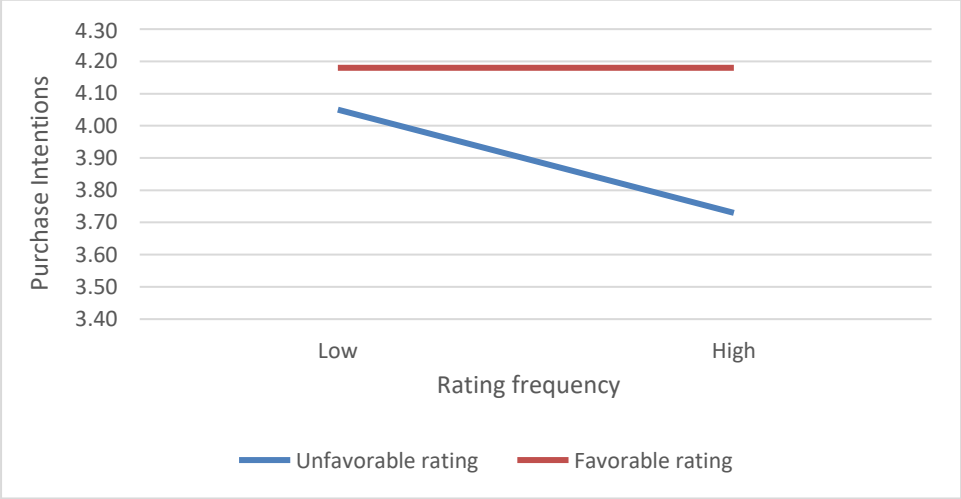

Figure 24. The interaction effect of rating favorability and rating frequency on purchase intentions (Experiment 2) for olive oil from Kirkland Signature by Costco.

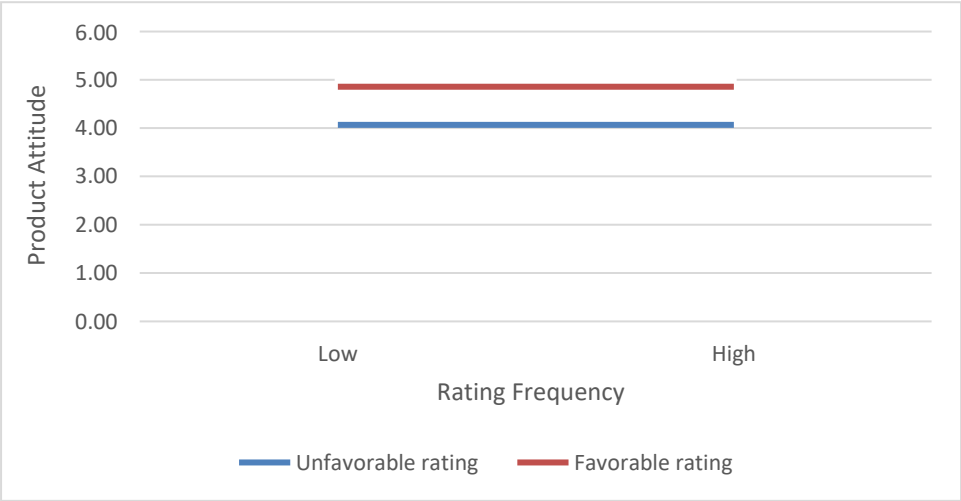

Figure 25. The interaction effect of rating favorability and rating frequency on product attitude (Experiment 2) towards olive oil from Kirkland Signature by Costco.

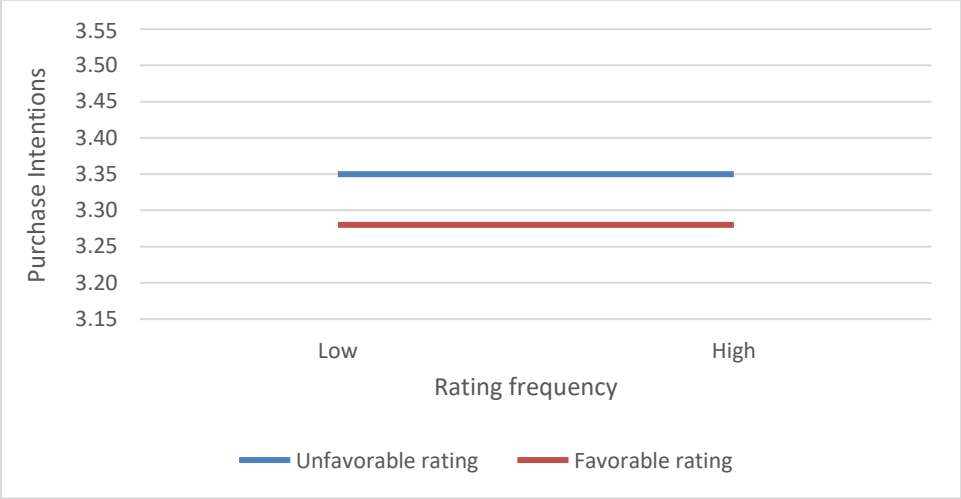

Figure 26. The interaction effect of rating favorability and rating frequency on purchase intentions (Experiment 2) for photo paper from Kirkland Signature by Costco.

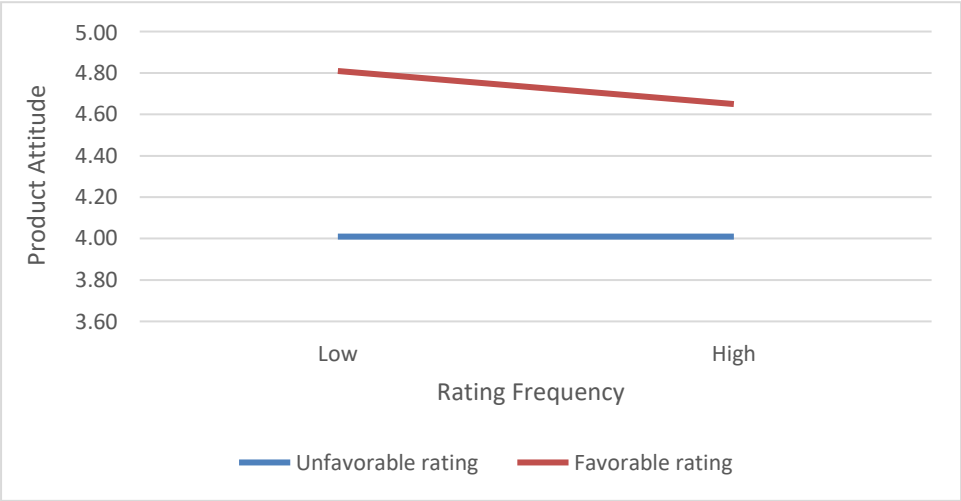

Figure 27. The interaction effect of rating favorability and rating frequency on product attitude (Experiment 2) towards photo paper from Kirkland Signature by Costco.

Appendix A. Stimuli

Rating favorability pretest

Experiment 1: Stimuli for French Fried Onions

Rating favorability: low, Rating frequency: low

Rating favorability: low, Rating frequency: moderate

Rating favorability: low, Rating frequency: high

Rating favorability: moderate, Rating frequency: low

Rating favorability: moderate, Rating frequency: moderate

Rating favorability: moderate, Rating frequency: high

Rating favorability: high, Rating frequency: low

Rating favorability: high, Rating frequency: moderate

Rating favorability: high, Rating frequency: high

Note: Similar stimuli were developed for four other Great Value products: LED light bulb, lemon juice, chocolate milk, and paper plates.

Experiment 2: Stimuli for Dishwasher Detergent

Rating favorability: low, Rating frequency: low

Rating favorability: low, Rating frequency: high

Rating favorability: high, Rating frequency: low

Rating favorability: high, Rating frequency: high

Note: Similar stimuli were developed for three other Kirkland Signature products: mixed nuts, olive oil, and photo paper.

Experiment 3: Stimuli for Laundry Detergent

Rating favorability: low, Rating frequency: low,
Brand: President's Choice, Product: existing

Rating favorability: low, Rating frequency: low,
Brand: President's Choice, Product: new

Rating favorability: low, Rating frequency: high,
Brand: President's Choice, Product: existing

Rating favorability: low, Rating frequency: high,
Brand: President's Choice, Product: new

Rating favorability: high, Rating frequency: low,
Brand: President's Choice, Product: existing

Rating favorability: high, Rating frequency: low,
Brand: President's Choice, Product: new

Rating favorability: high, Rating frequency: high,
Brand: President's Choice, Product: existing

Rating favorability: high, Rating frequency: high,
Brand: President's Choice, Product: new

Rating favorability: low, Rating frequency: low,
Brand: Sam's Choice, Product: existing

Rating favorability: low, Rating frequency: low,
Brand: Sam's Choice, Product: new

Rating favorability: low, Rating frequency: high,
Brand: Sam's Choice, Product: existing

Rating favorability: low, Rating frequency: high,
Brand: Sam's Choice, Product: new

Rating favorability: high, Rating frequency: low,
Brand: Sam's Choice, Product: existing

Rating favorability: high, Rating frequency: low,
Brand: Sam's Choice, Product: new

Rating favorability: high, Rating frequency: high,
Brand: Sam's Choice, Product: existing

Rating favorability: high, Rating frequency: high,
Brand: Sam's Choice, Product: new

Note: Similar stimuli were developed for two other products: maple syrup and sockeye salmon.

Appendix B. Scales used in this research

Attitude towards private labels (general) (adapted from Burton, Lichtenstein, Netemeyer, & Garretson, 1998) — Experiments 1, 2, and 3

1 = strongly disagree, 7 = strongly agree

Buying private label brands makes me feel good.

I love it when private label brands are available for the product categories I purchase.

For most product categories, the best buy is usually the private label brand.

In general, private label brands are poor-quality products. (*r*)

Considering value for the money, I prefer private label brands to national brands (e.g. Tide, Lay's etc.).

When I buy a private label brand, I always feel that I am getting a good deal.

Brand Attitude (specific private label) (adapted from Burton et al., 1998) — Experiments 1, 2, and 3

1 = strongly disagree, 7 = strongly agree

Buying this product by [X] makes me feel good.

I love it when this product by [X] is available for purchase.

For this product, the best buy is usually the [X] brand.

In general, [X] offers poor-quality in this product. (*r*)

Considering value for the money, I prefer [X] brand to national brands (e.g. Tide, Lay's etc.) for this product.

When I buy this product by [X], I always feel that I am getting a good deal.

Consumer Confidence (adapted from Laroche, Kim, & Zhou, 1996) — Experiments 1, 2, and 3

1 = far too little, 7 = far too much

How confident are you about your evaluation of [X] as a private label brand?

To what extent are you certain about your evaluation of [X] as a private label brand?

Product Attitude (adapted from Kalra & Goodstein, 1998) — Experiments 1, 2, and 3

1 = unfavorable, 7 = favorable; 1 = bad, 7 = good; 1 = negative, 7 = positive

What is your evaluation of this specific [X] product?

Product Involvement (adapted from Chandrasekaran, 2004) — Experiments 1, 2, and 3

1 = strongly disagree, 7 = strongly agree

I am particularly interested in this product.

Given my personal interests, this product is not very relevant to me. (*r*)

Overall, I am quite involved when I am purchasing this product for personal consumption.

Purchase Intentions (adapted from Dodds, Monroe, & Grewal, 1991) — Experiments 1, 2, and 3

1 = very low, 7 = very high

Based on the information displayed above, the likelihood of purchasing this product is …..

Based on the information displayed above, the probability that I would consider buying this product is …..

Based on the information displayed above, my willingness to buy this product is …..

Risk Aversion (adapted from Donthu & Gilliland, 1996) — Experiments 1, 2, and 3

1 = strongly disagree, 7 = strongly agree

I would rather be safe than sorry.

I want to be sure before I purchase anything.

I avoid risky things.
