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Timucin Ozcan

Daniel A. Sheinin

Timucin Ozcan (email: tozcan@siue.edu; phone: 618-650-2704; fax: 618-650-2709) is an Assistant Professor of Marketing at the School of Business, Campus Box 1100, Southern Illinois University Edwardsville, Edwardsville, IL 62026, USA. Daniel A. Sheinin (email: dsheinin@uri.edu; 401-874-4344; fax: 401-874-4312) is a Professor of Marketing at the College of Business Administration, University of Rhode Island, 7 Lippitt Road, Kingston, RI 02881, USA. Address all correspondence to Timucin Ozcan at all stages of refereeing and publication, also post-publication.
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Abstract
Multifunctional products have become increasingly popular as marketers seek to attain broader customer appeal at a reduced portfolio management cost. However, when they are evaluated along with single-function alternatives, multifunctional products are less effective on common features. A potential limitation of this finding is the attributes of multifunctional products were not allowed to vary. Importantly, other work finds changing the attribute composition of multifunctional products can alter their judgments. Yet, research has not examined whether changing the attribute composition of multifunctional products can eliminate their lower effectiveness when they are evaluated with single-function alternatives. In two studies, we find changing the attribute composition of multifunctional products does in fact eliminate, and at times even reverses, their perceived disadvantage compared with single-function alternatives. We also identify a specific attribute context that causes multifunctional products to display the highest choice and greatest perceived differentiation.

**Keywords:** Multifunctional products; compensatory reasoning; attribute alignability; attribute positioning
An important decision faced by marketing managers is which functions to link with a product. A specialized product contains a single function (e.g., Colgate® Sensitive Pro-Relief™) while a multifunctional product contains two or more (e.g., Colgate® Sensitive Pro-Relief™ with Enamel Repair). Multifunctional products have broader appeal at a lower portfolio management cost. However, multifunctional products were assessed less positively than specialized alternatives at high levels of technology performance (Han et al. 2009). Moreover, multifunctional products risk post-purchase feature fatigue (Thompson et al. 2005). Finally, an attribute in a multifunctional product is “devalued” when it is shared with and in the same choice set as a specialized alternative (Chernev 2007).

Importantly, a limitation in these studies is that the lower effectiveness of multifunctional products was found for a given set of attributes. Yet, research suggests adding new attributes enhanced incremental utility and overall judgment (Bertini et al. 2009; Mukherjee and Hoyer 2001; Nowlis and Simonson 1996), even when they were known to be unimportant (Brown and Carpenter 2000). Moreover, positioning can change the meaning of attributes (e.g., Pham and Muthukrishnan 2002; Kim and Meyers-Levy 2008; Punj and Moon 2002), thus enhancing product judgments under particular circumstances. This raises the issue that judgments of multifunctional products may in fact be improved relative to specialized alternatives with more careful attribute selection and positioning.

Therefore, the objective of this research is to investigate whether perceptions about multifunctional products can be enhanced by changing their attribute composition. We manipulate attribute composition using two dimensions – attribute alignability and attribute
positioning. Alignability refers to the relatedness between the attributes (Studies 1 and 2), and positioning refers to whether the attributes are described in emotional or functional terms (Study 2). Consistent with recent literature, we use multifunctional products with two attributes and specialized products with one, and examine the situation when both are in the same choice set (Chernev 2007). One of the multifunctional product’s attributes is unique, while the other is common with the specialized alternative. We find that attribute composition does in fact moderate competitive context, with implications for multifunctional-product attribute ratings and choice. For managers, this research will provide the beginning of a roadmap delineating what kinds of attributes best combat specialized alternatives.

**Conceptual Framework**

The literature is conflicting on the effectiveness of adding features to form multifunctional products. Some research suggests adding new attributes enhanced incremental utility and overall judgment (Bertini et al. 2009; Mukherjee and Hoyer 2001; Nowlis and Simonson 1996), even when they were known to be unimportant (Brown and Carpenter 2000). However, recent work finds multifunctional products were assessed less positively than specialized alternatives at high levels of technology performance (Han et al. 2009). Moreover, multifunctional products risk post-purchase feature fatigue (Thompson et al. 2005). Finally, an attribute in a multifunctional product is “devalued” when it is shared with and in the same choice set as a specialized alternative (Chernev 2007).

One possible reason for this conflict is the differing conditions in which multifunctional products were assessed. In the latter research, they were primarily evaluated in choice sets consisting of competitive products, specifically single-function (specialized) alternatives. For example, how the photo capabilities of a smartphone are assessed when digital cameras are
considered concurrently. In these circumstances, multifunctional products were seen as inferior on the features shared by the two products. This situation is called “context-based covariation.”

In contrast, in the former research demonstrating the superiority of adding features, multifunctional products were primarily evaluated independently of context, not in reference to competitive alternatives. Here, judgments about multifunctional products stemmed primarily from two influences: inferences about other product attributes such as price-quality (Baumgartner 1995; Bettman et al. 1986; Shiv et al. 2005) and brand name-quality (Allison and Uhl 1964; Janiszewski and Van Osselaer 2000); and perceived enhanced utility of adding new attribute benefits (e.g., Mukherjee and Hoyer 2001). This situation is called “attribute-based covariation.”

This distinction is important because information is processed differently with each type of covariation. Under context-based covariation, decisions are shaped by compensatory reasoning (Chernev 2007; Prelec et al. 1997; Wernerfelt 1995). Consumers perceive the multifunctional product as superior on its unique attribute (e.g., the one not contained in the specialized alternative), and then “compensate” by evaluating it as inferior on the common attribute (e.g. Chernev 2007). In contrast, with attribute-based covariation, consumers no longer “compensate” because there are no competitive products to consider. Therefore, noncompensatory strategies dominate, in which attributes are evaluated either relative to other features in the products or independently of any interpretive context (Gourville and Soman 2005).

Surprisingly, despite the importance of both context-based and attribute-based covariation in evaluating multifunctional products, no work that we are aware of has investigated both covariations together. In other words, does changing attribute-based covariation allow
multifunctional products to better compete against specialized alternatives? We operationalize attribute-based covariation by changing the attribute composition in multifunctional products. Specifically, we manipulate attribute alignability and attribute positioning. Attribute alignability refers to the relatedness between the functions, while attribute positioning refers to the words used to describe the functions. As we describe, both of these dimensions of attribute composition should eliminate and at times even reverse the inferior performance of multifunctional products versus specialized alternatives.

Varying the extent of attribute alignability differentially affects both product judgments and decision processes (see Bertini et al. 2009; Gourville and Soman 2005; Griffin and Broniarczyk 2010; Johnson 1984; Okada 2006; and Zhang and Markman 2001). Low alignability made direct comparisons harder (Bertini et al. 2009), complicated decision-making (Zhang and Markman 2001), and generated subtypes (Sujan and Bettman 1989). For these reasons, a noncompensatory decision strategy should dominate because of the difficulty in making attribute comparisons.

When a multifunctional product has low attribute alignability and is in the same choice-set as a specialized alternative, unique-attribute enhancement is expected compared with high alignability. Unique-attribute enhancement occurs when the rating of the unique attribute in the multifunctional product exceeds that of the specialized alternative. Although enhancement would be expected because this attribute is missing in the specialized alternative, the magnitude of enhancement is important because it represents the perceived degree of differentiation. With low alignability, the use of a noncompensatory decision process should strengthen perceived differentiation and thus lead to a high degree of unique-attribute enhancement.
A consequence of a noncompensatory decision process and large unique-attribute enhancement would be a reduction in common-attribute devaluation. As in Chernev (2007), common-attribute devaluation occurs when the rating of the common attribute in a multifunctional product is less than that of a specialized alternative. He demonstrated devaluation in the context of a compensatory process. Consumers evaluated a multifunctional product as superior on its unique attribute versus a specialized alternative, and compensated by assessing it as inferior on the common attribute. However, when attribute-based covariation drives a noncompensatory process, attributes are not evaluated relative to competitive products. The common attribute should no longer be assessed relative to that of the specialized alternative, thereby reducing its devaluation. Consequently, with low alignability, the combination of significant unique-attribute enhancement and reduced common-attribute devaluation should increase multifunctional-product choice compared with high alignability.

In contrast, when a multifunctional product has high attribute alignability and is in the same choice-set as a specialized alternative, reduced unique-attribute enhancement is expected. With high alignability, assimilation should occur, where a product is considered as typical of the category (Sujan and Bettmann 1989). Therefore, direct comparisons would be much easier (e.g, Bertini et al. 2009) between a multifunctional product and a specialized alternative, leading to a compensatory process. With a compensatory process, increased common-attribute devaluation is expected (e.g. Chernev 2007). The combination of reduced unique-attribute enhancement and increased common-attribute devaluation should decrease choice.

H1: When a multifunctional product is in the same choice set as a specialized alternative and has low versus high attribute alignability, it will display:

H1a) increased unique-attribute enhancement,
H1b) reduced common-attribute devaluation, and
H1c) increased choice.
Study 1

Pretest

The objective of Study 1 was to test hypotheses H1a-H1c. The pretest was designed to find product categories in which participants would perceive two attributes that clearly differed in alignability. Participants (n=37) were recruited from a large, midwestern public university in exchange for extra course credit. Ten categories were tested, and a fundamental attribute was selected from each category. Then, four additional features from each category were selected that were thought to vary in alignability from the fundamental attribute, and were separately paired with that attribute. This mirrors a recent operationalization of alignability (Griffin and Broniarczyk 2010). In that study, one central attribute (e.g., processor speed) was selected against which other attributes were determined to be either aligned or non-aligned. Whereas they manipulated alignability within levels of attributes in the same category, we manipulated alignability across attributes in the same category. We had to slightly modify their procedure because they used within-category alternatives with the same number of attributes whereas we utilized within-category alternatives differing in attribute quantity (specialized with one and multifunctional with two). For example, with toothpaste, brightening was more highly aligned with whitening than enamel strengthening (p<.0001, as with each subsequent comparison), and whitening and enamel strengthening demonstrated low alignability. For laundry detergent, the attributes were stain elimination (fundamental), dirt removal (high alignability) and softening (low alignability). For athletic apparel, the attributes were dry technology (fundamental), sweat blocking (high) and durability (low).

Design, Procedure, and Measures
A 2 (multifunctional-product attribute alignability: high and low) x 3 (product category: toothpaste, laundry detergent, and athletic apparel) mixed design was used. Attribute alignability was between-subjects and product category was within-subjects. Participants (n=260) were recruited from a large, midwestern public university in exchange for extra course credit.

Participants first read an introductory page stating they would be asked questions about some products. Then, the first stimulus set appeared on-screen for 10 seconds (see Appendix for sample stimuli). Each set consisted of a specialized and multifunctional product from the same category, with attributes described using one or two words as specified in the pretest (see also Chernev 2007). For example, the choice set for toothpaste with a multifunctional product having high attribute alignability and a specialized alternative was: *Toothpaste A* Whitening – *Toothpaste B* Whitening and Brightening. Then, the next page contained the choice question. On the following page, there were four attribute ratings crossing the two products with the two attributes. After that were questions pertinent to the manipulation checks, covariates, and category experience and expectations. This concluded the first choice set. There was a brief distractor task, followed by the second stimulus set. The question types and sequence were identical for this and the third stimulus set. The entire procedure took approximately 15 minutes.

Multifunctional product choice was operationalized as a binary question asking participants which of the two products in the set they would choose. Attribute ratings were statements assessed on a seven-point scale anchored by disagree/agree. For example, “Toothpaste A would be effective at whitening teeth.” Finally, alignability was measured by two items. For toothpaste, these items read: “Whitening and enamel strengthening are similar features of a toothpaste” and “I’d expect a whitening toothpaste to strengthen enamel”

**Results**
Planned contrasts revealed that the attribute alignability manipulation clearly worked as intended. Perceived alignability was higher in the high versus low condition \((p<.0001)\). Perceived attribute importance and task involvement were measured as covariates, but neither was significant. A series of 2 (multifunctional-product attribute alignability) x 3 (product category) repeated-measures ANOVAs revealed no significant differences among the product categories, so the data were merged across the categories.

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Insert Table 1 Here

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To test hypotheses H1a and H1b, we compared the differences between the attribute ratings in the multifunctional and specialized products. A 2 (alignability) x 1 repeated-measures ANOVA was conducted, with the unique-attribute rating as the repeated measure (see Table 1 for all means and statistics). The analysis revealed the expected 2-way interaction \(F_{1,258}=20.11; p<.0001\). Confirming hypothesis H1a, unique-attribute enhancement increased under low \((M=5.14)\) versus high alignability \((M=3.64; F_{1,258}=20.11; p<.0001)\). Then, the same 2 x 1 repeated-measures ANOVA was conducted with the common-attribute rating as the repeated measure. Here, the interaction was not significant \((p>.40)\), and hypothesis H1b was not confirmed. The difference in common-attribute ratings was the same regardless of alignability. However, the common-attribute results in the low-alignability context were consistent with our theorizing, and those in the high-alignability context were surprising. These results are discussed further below. Finally, a binary logistic regression was run on choice. Confirming hypothesis H1c, choice of the multifunctional product increased under low \((M=94.7\%)\) versus high alignability \((M=80.5\%; \chi^2=12.81; p<.0001)\).
Discussion

Under low alignability, compared with high alignability, multifunctional products displayed increased unique-attribute enhancement (hypothesis H1a) and choice (hypothesis H1c) but not reduced common-attribute devaluation (hypothesis H1b). With low alignability, we expected decreased common-attribute devaluation. This in fact occurred, to the extent that it was completely eliminated. In other words, the common-attribute rating was the same in both products ($p > .50$). With high alignability, we expected increased common-attribute devaluation because prior literature linked it directly with compensatory reasoning (Chernev 2007). Surprisingly, it was not only eliminated but also reversed. In other words, common-attribute enhancement occurred – the common-attribute rating was higher in the multifunctional product ($M=8.42$) than the specialized alternative ($M=8.21$; $F_{1,127}=6.50; p < .05$). These findings represent the first evidence that attribute-based covariation moderates context-based common-attribute devaluation.

A possible explanation for the common-attribute enhancement under high alignability stems from the unique and common attributes being functionally identical. With compensatory reasoning, the unique attribute of a multifunctional product is perceived as superior to a specialized alternative, leading to its common attribute being assessed as inferior (Chernev 2007). However, with high alignability, attribute covariation would suggest perceived superiority of the unique attribute would lead to the same judgment of the common attribute. In other words, the high similarity of the attributes may have bolstered the perceived functionality of the common attribute relative to the specialized alternative. This attribute covariation effect has been shown frequently, for example in the price-quality literature (e.g., Shiv et al. 2005).
Given that the common-attribute difference was the same regardless of alignability, why did choice increase with low alignability? Apparently, the unique attribute was more diagnostic than the common attribute for choice. Theoretical support comes from research finding that increasing differentiation by adding distinct attributes enhances the utility of a multifunctional product (Bertini et al. 2009; Mukherjee and Hoyer 2001; Nowlis and Simonson 1996), even when they are known to be unimportant (Brown and Carpenter 2000).

Empirical support for this proposed diagnosticity difference comes from a mediation analysis testing whether the attribute-rating differences mediated the alignability effect on choice (see Zhao et al. 2010 for a procedural review). Preacher and Hayes’s (2008) SPSS macro with 5,000 bootstrapped samples revealed an indirect-only mediation of the unique-attribute difference ($a \times b = .65; p < .05$), with a 95% confidence interval excluding zero (.32 to 1.22). Alignability influenced unique-attribute difference ($t = 4.48; p < .0001$), which in turn influenced choice ($Z = 4.33; p < .0001$). With the mediator, the direct effect $c$ of alignability on choice was not present ($p > .15$). In contrast, the common-attribute difference had no mediation effects.

The results of the mediation analysis and hypothesis testing show attribute-based covariation, in terms of multifunctional-product attribute alignability, moderated context-based covariation as predicted. Moreover, the unique attribute appears more diagnostic than the common attribute. In Study 2, we replicate and extend Study 1 by examining multifunctional-product attribute positioning in conjunction with alignability.

**Study 2**

**Conceptual Framework**

Research has identified many tactical dimensions of positioning, including its functional/emotional orientation (see Fuchs and Diamantopoulos 2010 for a review). Functional

With a multifunctional product, functional positioning should produce direct product-feature comparisons and decisions based on attribute assessments. This more analytical approach should yield a compensatory process. In contrast, emotional positioning is more holistic and should reduce the focus on individual attributes (Fuchs and Diamantopoulos 2010) thus generating a noncompensatory process. Based on this processing distinction, as previously argued, emotional positioning should favor the multifunctional product, leading to increased unique-attribute enhancement, reduced common-attribute devaluation, and increased choice. H2: When a multifunctional product is in the same choice set as a specialized alternative and has emotional versus functional positioning, it will display:

H2a) increased unique-attribute enhancement,
H2b) reduced common-attribute devaluation, and
H2c) increased choice.

When the attributes in a multifunctional product have low alignability, based on the above theorizing, we expect emotional positioning to enhance its judgments versus functional positioning. The combination of low alignability and emotional positioning should be most beneficial for multifunctional products, leading to the largest unique-attribute enhancement and choice. Then, due to the pervasive effect of subtyping driving noncompensatory processing, the combination of low alignability and functional positioning should be less beneficial for multifunctional products but still superior to high alignability. The enhanced product utility for
multifunctional products of adding low alignability attributes is so strong (Bertini et al. 2009; Mukherjee and Hoyer 2001; Nowlis and Simonson 1996) that it occurs even when they are known to be less important (Brown and Carpenter 2000). Under high alignability, compensatory reasoning should dominate regardless of positioning. The high similarity between the unique and common attributes is expected to lead to assimilation and thus compensatory reasoning under any positioning context. Thus, multifunctional products should display the smallest unique-attribute enhancement and choice.

In terms of common-attribute ratings, recall from Study 1 that common-attribute devaluation was eliminated with low alignability and enhancement occurred with high alignability. In contrast to Chernev’s findings in the absence of alignability (2007), we believed the comparison process inherent to compensatory reasoning bolstered the common attribute in the multifunctional product in the context of high alignability because the high similarity of the two attributes enhanced the perceived functionality of the common attribute relative to the specialized alternative. If this is indeed the case, common-attribute enhancement should be the largest under high alignability and functional positioning because compensatory reasoning would be most dominant in that context.

H3: When a multifunctional product is in the same choice set as a specialized alternative, compared with the other three conditions it will display:

H3a) the largest unique-attribute enhancement with low alignability and emotional positioning, H3b) the largest common-attribute enhancement with high alignability and functional positioning, and H3c) the largest choice with low alignability and emotional positioning.

Participants, Design, Procedure, and Measures

The objective of Study 2 was to test hypotheses H1a-H3c. Participants (n=346) were recruited from a large, midwestern public university in exchange for extra course credit. A 2
(multifunctional product attribute alignability: high and low) x 2 (multifunctional product positioning: functional and emotional) x 3 (product category: toothpaste, laundry detergent, and athletic apparel) mixed design was used. Attribute alignability and positioning were between-subjects, and product category was within-subjects.

Positioning was manipulated by first elaborating upon the one-to-two word attribute descriptions from Study 1. The nature of the elaboration changed by condition. For functional positioning, concrete analytical rationale was used to support the attribute (see Appendix for sample stimuli). Conversely, for emotional positioning, general and vague rationale was utilized to connote feelings generated via product experience. The word count of the positionings was kept about the same.

The procedure was identical to Study 1 except the stimulus set appeared on-screen for 20 seconds since positioning increased the cognitive load. The measures were also the same, except a second manipulation check was added for positioning.

**Results**

Planned contrasts revealed that the alignability and positioning manipulations clearly worked as intended. Participants perceived attribute alignability as higher in the high versus low condition ($p<.0001$). Moreover, emotional positioning was perceived as more emotional than the functional positioning ($p<.0001$). Perceived attribute importance and task involvement were measured as covariates, but neither were significant. As in Study 1, no significant differences emerged among the product categories, so data were merged across them.

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Insert Table 2 Here

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First, a 2 (alignability) x 2 (positioning) repeated-measures ANOVA was conducted, with the unique-attribute rating as the repeated measure (see Table 2 for main-effect results and Table 3 for interaction-effect results). The analysis revealed the expected 3-way interaction ($F_{1,344}=7.53; p<.01$). Replicating hypothesis H1a, unique-attribute enhancement increased when the multifunctional product had low ($M=3.77$) versus high alignability ($M=1.62$; $F_{1,346}=64.94; p<.0001$). Confirming hypothesis H2a, unique-attribute enhancement increased when the multifunctional product had emotional ($M=3.07$) versus functional positioning ($M=2.38$; $F_{1,346}=5.83; p<.05$). Confirming hypothesis H3a, the largest unique-attribute enhancement occurred with low alignability/emotional positioning ($p<.0001$ versus the other 3 conditions). In addition, low alignability/functional positioning was larger than the two high alignability conditions (each $p<.01$), which were the same regardless of positioning ($p>.90$).

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Insert Table 3 Here

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Then, another 2 x 2 repeated-measures ANOVA was conducted, with the common-attribute rating as the repeated measure. The analysis revealed the expected 3-way interaction ($F_{1,344}=6.91; p<.01$). Similar to Study 1, hypothesis H1b was not confirmed. However, replicating the results of Study 1, common-attribute devaluation was again eliminated with low alignability (in fact, here, it was reversed and enhancement occurred; $p<.01$) and attribute enhancement was again demonstrated with high alignability ($p<.0001$). Confirming hypothesis H2b, common-attribute enhancement was larger when the multifunctional product had functional ($M=0.68$) versus emotional positioning ($M=0.22$; $F_{1,346}=11.32; p<.001$). Supporting hypothesis H3b, common attribute rating enhancement was the largest with high alignability/functional
positioning ($p<.0001$ versus the other 3 conditions). The 3 other conditions displayed the same extent of enhancement ($p>.40$).

Finally, a 2 x 2 binary logistic regression was run on multifunctional-product choice. Supporting hypothesis H1c, choice increased with low ($M=89.4\%$) versus high alignability ($M=65.5\%; \chi^2_1=29.94; p<.0001$). Confirming hypothesis H2c, choice increased with emotional ($M=82.5\%$) versus functional positioning ($M=73.1\%; \chi^2_1=4.47; p<.05$). Supporting hypothesis H3c, choice increased the most with low alignability/emotional positioning ($p<.01$ versus the other 3 conditions). In addition, choice increased more with low alignability/functional positioning than with either of the high alignability conditions (each $p<.001$). Finally, choice increased more with high alignability/emotional positioning ($M=72.4\%$) than with high alignability/emotional positioning ($M=58\%; \chi^2_1=3.85; p=.05$).

As in Study 1, a mediation analyses were conducted to explore the choice results in more detail. The results again demonstrated complementary mediation of the unique-attribute difference between alignability and choice ($a x b x c = .17$), and also showed competitive mediation of the common-attribute difference ($a x b x c = -.03$). Preacher and Hayes’s (2008) SPSS macro with 5,000 bootstrapped samples revealed the indirect effect is significant (unique rating difference: $a x b =.31; p<.05$; common rating difference: $a x b = -.05; p<.01$), with both 95% confidence intervals excluding zero (Zhao, Lynch, and Chen 2010). The direct effects $c$ (.56 and .41) are also significant ($p<.01$ and $p<.01$). We also ran a mediation analyses between positioning and choice. The results showed an indirect-only mediation of unique attribute difference (unique rating difference: $a x b =-.25; p<.05; c>.05$; 95% confidence interval excludes 0) and no mediation of common attribute difference.

Discussion
Hypotheses H1a and H1c were replicated, as was the non-confirmation of hypothesis H1b. However, regarding this hypothesis, results converge across the two studies that common-attribute devaluation is eliminated with low alignability (in Study 2, enhancement occurred), and common-attribute enhancement occurred with high alignability. Hypotheses H2a-H3c were confirmed. Study 2 made the implications of noncompensatory processes even stronger through the addition of emotional positioning, and therefore further demonstrated that the appeal of multifunctional product changes with different types of attribute covariation. Once again, the unique attribute was more diagnostic than the common attribute for multifunctional product choice. The unique attribute difference was a significant mediator with both alignability and positioning, while the common attribute difference was only significant with alignability.

**General Discussion**

The results help resolve some of the conflicting findings in the literature on multifunctional products. Prior work had found evidence of additional attributes enhancing (e.g., Bertini et al. 2009; Mukherjee and Hoyer 2001) and diminishing (Chernev 2007; Han et al. 2009; Thompson et al. 2005) product evaluation. We expand this literature by finding judgments of multifunctional products change as a function of their attribute composition. First, we find no evidence of common-attribute devaluation, countering Chernev (2007). We find either common-attribute devaluation is eliminated or common-attribute enhancement occurs regardless of alignability and positioning, demonstrating how significantly attribute-based covariation moderates context-based covariation.

In addition, unlike previous research, we obtained data on unique-attribute ratings and choice. These data allowed a more complete picture of the implications of concurrent attribute-based and context-based covariation. Multifunctional products were preferred when their
attributes were low versus high in alignability because they were perceived as more differentiated via increased unique-attribute enhancement. The differentiation caused noncompensatory reasoning through the likely formation of a subtype, which pulled the common attribute out of the comparative context with the specialized alternative. Hence, either attribute devaluation was eliminated or attribute enhancement occurred. The same process and outcomes occurred when multifunctional products were positioned emotionally versus functionally, leading to their largest choice and perceived differentiation under conditions of low alignability and emotional positioning. Obtaining unique-attribute data also allowed an examination of process and diagnosticity via mediation analyses. Unique-attribute ratings were more diagnostic than common-attribute ratings in choice decisions.

Managers of multifunctional products now have important knowledge about how to compose its attributes to maximize its performance against specialized alternatives. They should seek to establish clear differentiation by adding attributes that are unusual or unexpected. In general, their objective should be creating a multifunctional product that is considered too distinct to be categorized along with specialized alternatives. In this manner, a multifunctional product would be less likely to be directly compared with specialized alternatives and hence perceived as inferior on common-attribute performance.

Limitations include the use of convenience samples, although pretests and manipulation checks ensured internal validity. Future research should gather process data to better understand the cognitive processes underlying shifting preferences of multifunctional products. Work should also examine whether there are other means of motivating noncompensatory processing, such as linking multifunctional products with attractive brands. Finally, the question of threshold and ceiling effects of differentiation should be investigated. In other words, if the
unique attribute is too different, then what would be the implications for judgments of multifunctional products.
References


on search and satisfaction. *Journal of Marketing Research, 47*, 323-334.


Table 1

*Study 1 Results*

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Table 2

*Study 2 Main-Effect Results*

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<td>7.91</td>
<td>0.61</td>
<td>H1b</td>
<td>(F_{1,346}=5.52;)</td>
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<td>(p&lt;.05;)</td>
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<td>0.22</td>
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<td>(F_{1,346}=11.32;)</td>
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<td>31.0%</td>
<td>H1c</td>
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<td>exp(B) = 2.11</td>
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<td>H2c</td>
<td>(\chi^2=4.47;)</td>
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<td>(p&lt;.05;)</td>
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Table 3

*Study 2 Interaction-Effect Results*

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<td>Low alignability/ emotional</td>
<td>92.2%</td>
<td>7.8%</td>
<td>84.4%</td>
<td>H3c</td>
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<td>86.7%</td>
<td>13.3%</td>
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<td>44.8%</td>
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<td>High alignability/ functional</td>
<td>58.0%</td>
<td>42.0%</td>
<td>16.0%</td>
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</tbody>
</table>
Appendix

Study 1 Sample Stimuli – Toothpaste

Specialized
Whitening

Multifunctional with high alignability
Whitening and brightening

Multifunctional with low alignability
Whitening and enamel strengthening

Study 2 Sample Stimuli – Toothpaste

Emotional positioning

Specialized
Superior whitening power so you can have the best and the whitest smile.

Multifunctional with high alignability
Superior whitening power so you can have the best and the whitest smile. Reveal the amazing brightness of your teeth to feel confident anytime.

Multifunctional with low alignability
Superior whitening power so you can have the best and the whitest smile. Strengthens enamel to give you the healthiest and strongest teeth.

Functional positioning

Specialized
Superior whitening power due to advanced dual silica technology and maximum peroxide power.

Multifunctional with high alignability
Superior whitening power due to advanced dual silica technology and maximum peroxide power. Multiple polyfluoride composites and integrated mini bright strips for amazingly bright teeth.

Multifunctional with low alignability
Superior whitening power due to advanced dual silica technology and maximum peroxide power. Multiple polyfluoride composites and advanced trisodium phosphate to strengthen enamel.
Mission

Our responsibility is to provide strong academic programs that instill excellence, confidence and strong leadership skills in our graduates. Our aim is to (1) promote critical and independent thinking, (2) foster personal responsibility and (3) develop students whose performance and commitment mark them as leaders contributing to the business community and society. The College will serve as a center for business scholarship, creative research and outreach activities to the citizens and institutions of the State of Rhode Island as well as the regional, national and international communities.

The creation of this working paper series has been funded by an endowment established by William A. Orme, URI College of Business Administration, Class of 1949 and former head of the General Electric Foundation. This working paper series is intended to permit faculty members to obtain feedback on research activities before the research is submitted to academic and professional journals and professional associations for presentations.

An award is presented annually for the most outstanding paper submitted.