

Toward a contingency view of new product creativity: Assessing the interactive effects of consumers

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Abstract Although creativity is widely recognized as a critical element for firms to develop new products, knowledge about how consumers evaluate product creativity remains far from definitive. The authors analyze how the relevance of novelty and appropriateness—two main elements of creativity—varies according to the characteristics of the consumer. A sample of 283 consumers indicates a negative interaction effect between novelty and appropriateness, suggesting that creativity depends on either, according to contingencies. Novelty is more relevant when consumers are highly involved or have little knowledge of the product. Appropriateness is more relevant when consumers are minimally involved or have significant knowledge. Theoretical and managerial implications are provided.

Keywords Creativity · Novelty · Appropriateness · Involvement · Knowledge

As competition relies more and more on innovation, the spotlight is shifting from efficiency to creativity (Galunic and Eisenhardt 2001). Firms are rapidly realizing the relevance of creativity when developing new products in order to differentiate their offerings and command premium price. The notion that creativity must comprise both novelty—the extent to which an object differs from conventional practice—and appropriateness—the extent to which it is meaningful in the

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conventional domain to which it belongs—has received a wide acceptance among marketing and psychology scholars (e.g., Amabile 1983; Im and Workman 2004; Andrews and Smith 1996). However, the few studies that specifically deal with new product creativity limit their analysis to managerial evaluations rather than analyzing consumers' judgments (Im and Workman 2004; Sethi et al. 2001). Further, the marketing literature assumes that the relative importance of novelty and appropriateness remains invariant across different types of consumers. Thus, while the effects of creativity has been investigated (Im and Workman 2004), knowledge of how consumers evaluate the creativity of a product remains far from being definitive.

We adopt a systems view of creativity, which suggests that creativity is not located in the creative product itself but rather in the interaction between the product and the subjects who evaluate that product (Kasof 1995). We, therefore, investigate if consumers with different characteristics tend to perceive either novelty or appropriateness as more relevant to their assessments. Drawing from the consumer behavior literature, we analyze the impact of two consumer variables: involvement, a sort of motivational variable, and knowledge, which refers to consumer information processing ability. The findings shed light on some contingencies according to which either novelty or appropriateness is more relevant.

1 Theoretical framework

1.1 Conceptualizing product creativity: What we know

Psychology scholars were among the first to study creativity. By analyzing creativity in music, drawings, and poems, they reached a certain agreement that creativity is influenced mainly by two factors: novelty and appropriateness. The marketing literature pertaining to creativity largely borrows from this psychological perspective, such that novelty and appropriateness provide the main factors affecting the creativity of products (Im and Workman 2004; Sethi et al. 2001), marketing programs (Andrews and Smith 1996), and advertisements (e.g., Haberland and Dacin 1992).

The most widely followed approach in creativity research, the “Consensual Assessment Technique,” involves allowing judges to evaluate creativity freely according to their own personal and subjective measures, because it is impossible to identify ultimate objective criteria for creativity (Amabile 1983). Indeed, creativity is something that people can recognize and often agree upon, even when they lack a guiding definition (Barron 1965). This is particularly useful for our purposes because it enables us to test how novelty and appropriateness relate to what consumers consider creative in a product.

1.2 Product creativity: What we do not know

If we accept that creativity should be influenced by two factors, we also posit that a complete theory of creativity should provide indications about the importance of each factor in terms of affecting the criterion variable. Several psychologists, too, have called for more research into how people really take novelty and appropriateness into account in their evaluations of creativity (e.g., Runco and Charles 1993).

Therefore, we analyze the way in which the influence of novelty and appropriateness on new product creativity varies across consumer characteristics.

1.2.1 The role of consumer characteristics

The behavioral literature notes two main elements that influence the way consumers collect, organize, and use information to form their evaluations of a product: involvement and product class knowledge (e.g., Alba 1983; Bellman and Park 1980).

Involvement refers to the personal relevance or importance of the product class to the consumer (Petty et al. 1983). Because the level of cognitive effort necessary to recognize novelty differs from that necessary to recognize appropriateness (Runco and Charles 1993), we test whether involvement moderates the impact of novelty and appropriateness on product creativity.

Product knowledge refers to the amount of accurate information held in memory as well as self-perceptions of product knowledge (Alba and Hutchinson 1987; Beatty and Smith 1987). To recognize novelty, people must use different information than that necessary to recognize appropriateness (Amabile 1983); therefore, we test whether knowledge moderates the impact of the two factors on product creativity.

2 Model and research hypotheses

The dependent variable in our model is product creativity, influenced by novelty and appropriateness (plus their interaction). The relevance of novelty and appropriateness in affecting creativity may be moderated by consumer characteristics (i.e., involvement and knowledge). We depict the proposed model in Fig. 1.

2.1 Involvement

Creativity research demonstrates that judgments about appropriateness take longer to develop and require more cognitive effort because the judge must evaluate the effective capacity of a product to solve specific problems (Jackson and Messick 1965). Differently, judgments of novelty are more readily achieved and do not require diligent processing because the judge only needs to recognize that something is different or deviates from a norm (Runco and Charles 1993). Studies of involvement clearly indicate that less-involved consumers are not willing to devote many cognitive resources and, therefore, tend to evaluate products on the basis of the most evident cues (Petty and Cacioppo 1981). Because appropriateness judgments require a lot of effort, only consumers engaged in detailed evaluations (i.e., highly involved) will make such judgments (Batra and Ray 1986; Kardes 1988).

When involvement increases, consumers lend more credence to appropriateness and less to novelty. We offer two different explanations. First, one of the fundamental facets of product involvement is the relevance of the product (Arora 1982; Zaichkowsky 1985). A product can be relevant in either a functional way, because it helps solve some critical problems, or a hedonistic way, because the consumer uses the product to convey a certain self-image to others. In both cases, highly involved consumers consider the product critical for their goals and commit to searching for the right

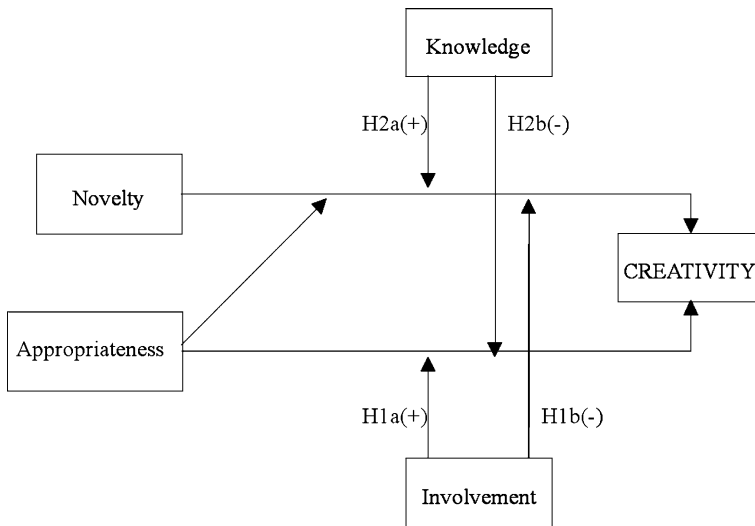


Fig. 1 Proposed model

solution to their problems (Laurent and Kapferer 1985). Because appropriateness refers to the product's capability to "solve a problem, fit the needs of a given situation, and accomplish some recognizable goals" (MacKinnon 1965, p. 25), it should be particularly important for those consumers who regard the product as relevant for their needs and the accomplishment of their goals (Kover et al. 1995; Michell 1984). Second, risk represents a critical component of involvement, in the sense that highly involved consumers tend to perceive more risk when evaluating the product and attribute more negative consequences to a poor choice (Jain and Srinivasan 1990). Thus, highly involved consumers should rely more on appropriateness when evaluating a product to reduce their risk of a bad choice. Summarizing, not only are highly involved consumers willing to expend the cognitive resources necessary to generate appropriateness judgments but they also devote particular attention to appropriateness to assess the product's capability to serve their goals and limit the risk of poor choices. Hence:

H1 Involvement (a) positively moderates the effect of appropriateness and (b) negatively moderates the effect of novelty on perceptions of product creativity

2.2 Prior knowledge

Novelty judgments require a comparison among products to acknowledge that a product differs from others, whereas appropriateness judgments rely on specific evaluations of a single product (Amabile 1983). We argue that when product class knowledge increases, consumers lend more importance to novelty and less to appropriateness. Consumers with less knowledge have difficulty recognizing similarities and differences between products because they face high learning costs in analyzing a new item (Moreau et al. 2001). Various studies report that less knowledgeable consumers' evaluations

generally focus on the benefits of the specific product rather than comparisons with others (e.g., Conover 1982; Maheswaran and Sternthal 1990; Rao and Sieben 1992). The ability to compare attributes among products increases as knowledge becomes deeper because the consumer experiences more exposure to information about the product class (Mitchell and Dacin 1996). Knowledgeable consumers' evaluations tend to rely more on comparisons between new and previously learned facts (Alba and Hutchinson 1987; Chi et al. 1981). Notably, the same consequence may stem from knowledgeable consumers' satiation with existing offerings, leading them to seek more variety. Hence, they should be more responsive to novelty. In sum, not only are knowledgeable consumers more able to develop novelty judgments but they also take it into more consideration in their product evaluations.

Our argument is corroborated by Brucks (1985), who shows that knowledgeable consumers tend to adopt a two-stage evaluation process: They evaluate products first according to their appropriateness but base their final judgments on product novelty compared with other products. On the contrary, less knowledgeable consumers rely on specific benefits (i.e., appropriateness) of the product.

Although the creativity literature largely ignores the role of product class knowledge, some evidence indicates that experts weigh novelty more when evaluating creativity. In the context of artistic evaluation, Amabile (1996) asks experts who had just evaluated the creativity of some artists' works to rank-order the qualities of art products in terms of how influential each of those qualifiers were in their assessments of creativity. A high agreement emerges regarding the top criteria, with 70% of judges indicating novelty as the most important. Hence, we hypothesize:

H2 Product class knowledge (a) positively moderates the effect of novelty and (b) negatively moderates the effect of appropriateness on perceptions of product creativity

3 Methodology

3.1 Study context and sample

We collected data from Italian consumers in the Milan area. Italy has a well-established tradition of creativity, from fine arts to business, and creativity is a relevant part of the Italian lifestyle. We recruited participants at the exit of a grocery store during October–December 2006 and asked them to answer two questions about their familiarity with the study product (i.e., a car). We assessed familiarity by asking subjects to indicate the number of cars they have owned (Punj and Staelin 1983); we excluded consumers who have never owned a car from the sample. Subjects who were familiar with cars then participated in the second phase of the study, which we called market research of a new car that would soon be introduced in the Italian market. This screening phase matches the requirement of Amabile (1996) that judges be selected on the basis of no other criterion than familiarity with the product. When the product is not complex (e.g., not a drawing or musical composition), moderate levels of familiarity are acceptable. Of the 297 consumers who agreed to participate, we excluded 14 who did not meet the minimum familiarity requirement. Therefore,

our subjects have at least a moderate level of familiarity with the product under evaluation. We also paid subjects a nominal fee for participating. We showed subjects the car presented in Appendix 1 with the following description:

This five-passenger compact vehicle is designed to allow riders to enjoy a living room experience. The front seats look more like arm chairs, and the rear seat like a curving sofa. The interior space is visually divided between the working space and the living space with color and texture. The work space includes the driver's seat, steering wheel and pedals rendered in blue suede with bamboo flooring. The remaining interior is comprised of cream suede and sisal natural flooring, much like an area rug. Front arm rests and control switches traditionally located on the doors are attached to the seats, which keep the door panels simple like walls in a room.

3.2 Measures, reliability, and validity

We derived the measures for our study from existing measures in the literature. After developing the questionnaire through conventional back-translation processes, we pilot-tested it in in-depth interviews with 12 consumers to determine the face validity, clarity, and relevance of the measures in the Italian context. For each scale, we provide the items in Appendix 2.

Creativity Because our study relies on conceptualization of creativity of Amabile (1983), we used her operationalization to assess subjective perceptions of product creativity. She recommends allowing judges to evaluate product creativity freely according to their personal definitions, without giving them any specific criterion. She also suggests asking for this evaluation first to avoid any influence by other questions. Accordingly, our first question was her single-item scale to assess creativity: "Using your own subjective definition of creativity, please rate the degree to which this product is creative." To guarantee discriminant validity, we separated subjective judgments of creativity from judgments of technical strength and esthetic appeal; otherwise, the creativity evaluations may have been biased by what judges like or find technically effective. In several studies, Amabile (1983, 1986) finds that correlations between these two dimensions and creativity usually range between 0.2 and 0.5. Therefore, we asked our subjects to evaluate esthetical appeal with a three-item semantic scale (see Appendix 2), whose α is 0.94. The correlation with the subjective measure of creativity is 0.26 ($p < .001$). Similarly, we asked subjects to rate the technical strength of the product with a single item; in this case, the correlation is 0.2 ($p < .001$).

Novelty We derived our novelty scale from the measures of Im and Workman (2004), which they tested among both product managers and customers. The novelty scale consists of six items that assess the degree of change introduced by the new product. Guided by our pretest, we modified the wording of the item "stimulating" from the original scale to "is not conventional," which appeared more comprehensible to Italian consumers ($\alpha = 0.93$).

Appropriateness We again adopted measure of Im and Workman (2004). The appropriateness scale consists of four items which assess the extent to which the product is appropriate and relevant for customer's needs ($\alpha=0.93$).

Involvement Consistent with the literature, which emphasizes different dimensions of involvement and strongly recommends taking all the facets of the involvement profile into account simultaneously (Laurent and Kapferer 1985), we adopted a multidimensional approach to measure involvement. Thus, we operationalized involvement as a second-order construct comprising five sub-dimensions: risk probability ($\alpha=0.95$), pleasure ($\alpha=0.94$), risk importance ($\alpha=0.97$), sign ($\alpha=0.95$), and relevance ($\alpha=0.94$). We adopted the scale of Jain and Srinivasan (1990) to measure these sub-dimensions. The alpha of the second-order construct is 0.9, consistent with the suggestions of Rossiter (2002).

Product class knowledge We adapted our measure of product class knowledge from the knowledge scale of Mitchell and Dacin (1996) ($\alpha=0.94$).

We also controlled for the following demographic variables in testing our hypotheses: age, gender (0=male, 1=female), and education (0=secondary school, 1=high school, 2=university degree).

We tested the measurement model with a confirmatory factor analysis, using AMOS 6.0, in which we controlled for convergent validity, construct reliability, and discriminant validity. All items loaded significantly on their corresponding factor, and the factor loadings were above the cutoff value of 0.7 (Shook et al. 2004), except for “stimulating” in the novelty scale and “reading” in the knowledge scale. We, therefore, dropped these items. All the constructs achieved a composite reliability greater than the cutoff of 0.70 suggested by Fornell and Larcker (1981), and the proportion of total variance in each construct extracted by the component set of indicator variables was greater than 0.50 (see Appendix 2). We tested for discriminant validity by examining if the average variance extracted (AVE) for each construct is greater than the squared correlations between constructs. As we show in Table 1, the diagonal elements representing the AVE for each construct are greater than the off-diagonal elements or the squared correlations between constructs, which satisfies the discriminant validity criterion. Finally, the absolute fit indexes indicate that the proposed measurement model fits the data reasonably well ($\chi^2/df=2.17$; normed fit index=0.925; confirmatory fit index=0.958; root mean square error of approximation=0.064).

Table 1 Discriminant validity: squared correlation between latent variables (off-diagonal) and AVE (diagonal)

	Novelty	Appropriateness	Involvement	Knowledge
Novelty	0.517			
Appropriateness	0.004	0.729		
Involvement	0.001	0.03	0.396	
Knowledge	0.003	0.058	0.002	0.517

4 Analysis and results

We employed hierarchical ordinary least squares regression analysis to test the hypotheses. The continuous independent variables were mean-centered before creating an interaction term to reduce multicollinearity (Aiken and West 1991). Mean-centering a variable improves the understanding of its coefficient, which now represents the effect of this variable when the other covariates are set at their mean (Jaccard and Turrisi 2003). The variance inflation factors associated with each regression coefficient ranged from 1.04 to 1.61, which ruled out unacceptable multicollinearity (Stevensen 2002). We provide the results in Table 2. Further, we tested all of our hypotheses simultaneously in Model 7. Coefficients remain stable, thus, providing further evidence that multicollinearity is not an issue here.

As we expected, both novelty and appropriateness had a positive and significant effect on creativity, and their magnitude was similar ($b_{\text{novelty}}=0.53$, $p<.001$; $b_{\text{appropriateness}}=0.44$, $p<.001$). The control variables (age, gender, education), involvement, and knowledge had no direct effects on perceived creativity. This model explained almost half of the variance of product creativity ($R^2=0.44$).

Although we did not develop a specific hypothesis, because of the literature gap regarding conceptualizations of product creativity, in Model 1, we explored a potential interaction effect between novelty and appropriateness. We found a negative and significant interaction effect ($b=-0.22$, $p<.001$), which suggested some interesting implications for the nature of the creativity construct. We return to this finding in the conclusion.

Table 2 Regression analysis

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Age	0.04	0.02	0.03	0.03	0.01	0.01	0.02
Gender	0.00	-0.02	-0.03	-0.05	-0.02	-0.03	-0.04
Education	0.00	-0.01	0.01	-0.01	-0.02	-0.02	-0.01
Involvement	-0.12	-0.12	-0.11	-0.12	-0.13	-0.10	-0.11
Knowledge	0.02	0.02	0.03	-0.01	0.00	0.01	-0.01
Novelty	0.53***	0.52***	0.52***	0.57***	0.53***	0.49***	0.53***
Appropriateness	0.44***	0.46***	0.38***	0.46***	0.46***	0.44***	0.39***
Novelty × appropriateness		-0.22***	-0.22***	-0.16***	-0.21***	-0.21***	-0.17***
Involvement × appropriateness			0.26***				-0.13***
Involvement × novelty				-0.21***			0.21***
Knowledge × Novelty					0.17***		0.10***
Knowledge × appropriateness						-0.13***	-0.10***
R^2	0.44	0.49	0.55	0.51	0.51	0.52	0.59
ΔR^2		0.05	0.11	0.07	0.07	0.08	1.50
ΔF		2.59**	5.08***	2.07*	2.06*	3.23**	8.93***

* $p<0.5$, ** $p<0.01$, *** $p<0.001$

In H1a, we argue that as involvement increases, appropriateness becomes more important for predicting creativity; in H1b, we argue the opposite for novelty. Before proceeding with our analysis, we noted that creativity evaluations were not statistically different between more ($M=4.91$) and less ($M=4.60$) involved consumers ($F=2.97, p>0.05$), and involvement had no significant effect on creativity. This finding implies that consumers evaluate the creativity of a product the same way, regardless of their level of involvement. The only thing that may vary is the relevance that more and less involved consumers assigned to either novelty or appropriateness. The interaction terms involvement \times novelty and involvement \times appropriateness both had significant effects but opposite signs (see Models 3 and 4). That is, the relevance of appropriateness increased ($b=0.26, p<0.001$) as involvement increased, whereas that of novelty decreased ($b=-0.21, p<0.001$), supporting H1a and H1b. We display the moderation effects in Fig. 2.

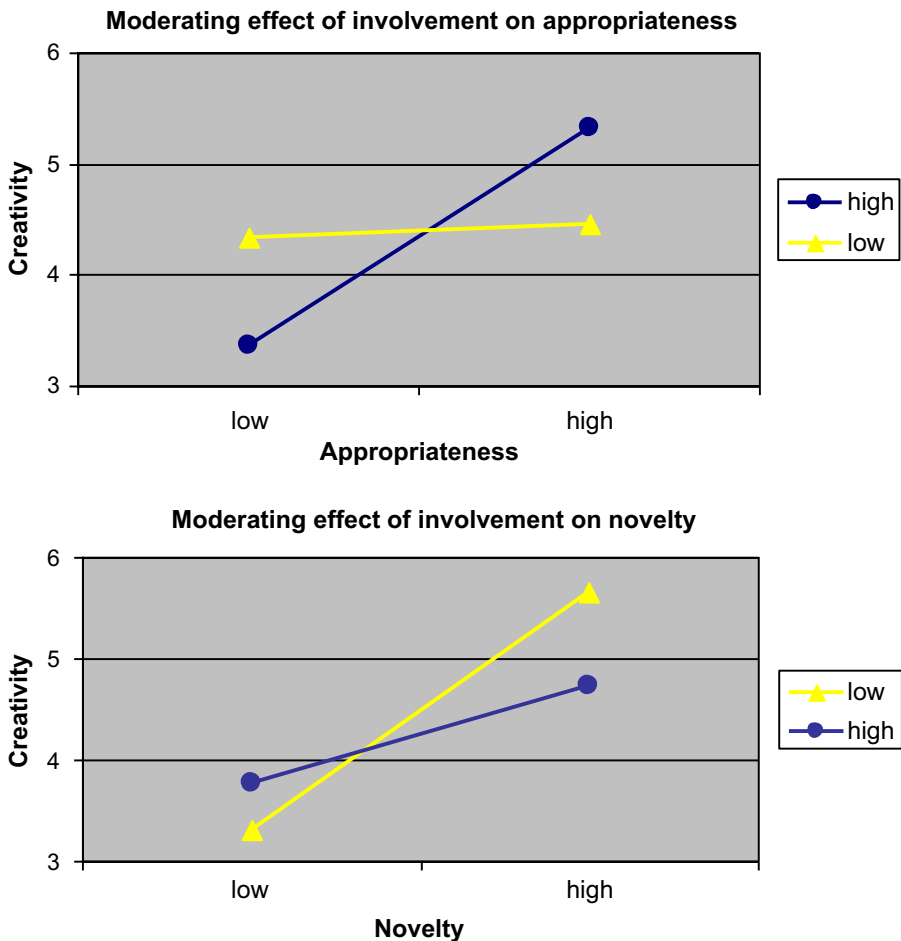


Fig. 2 Moderating effects of involvement

With H2, we posit that consumers lend (a) more importance to novelty and (b) less importance to appropriateness when their product knowledge increases. Again in this case, we found no significant difference between more ($M=4.88$) and less ($M=4.64$) knowledgeable consumers in terms of their subjective perceptions of creativity ($F=1.87, p>0.05$) and no significant effect of knowledge on creativity. As knowledge increased, novelty became more important ($b=0.17, p<0.001$), and appropriateness less so ($b=-0.13, p<0.001$), supporting H2 (see Models 5 and 6). The results appear in Fig. 3.

4.1 Further analysis

We controlled for the moderating impact of the five different sub-dimensions of involvement. Indeed, some studies maintain that different types of involvement

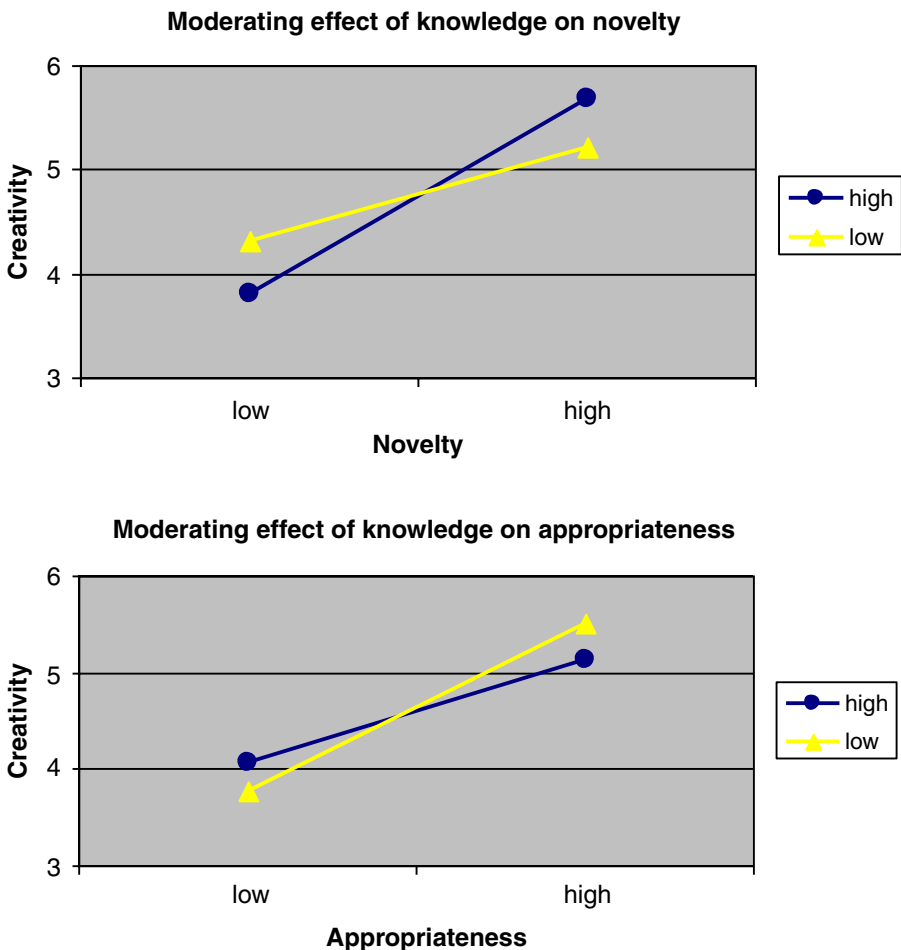


Fig. 3 Moderating effects of knowledge

have differential effects on search efforts (Beatty and Smith 1987; Laurent and Kapferer 1985). We show the results in Table 3. The results suggest that—with the only exception of the interaction between relevance and appropriateness—all of the sub-dimensions of involvement moderate the effect of appropriateness and novelty in the same way as the higher-order construct involvement.

5 Conclusion

This study aims to advance knowledge of how consumers perceive the creativity of a product by offering three main departures from existing research: First, it tests hypotheses with a large sample of consumers, the ultimate judges in the market; second, these consumers evaluate real products that they actually

Table 3 Regression analysis with the sub-dimensions of involvement (standardized values)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age	0.02	0.03	0.04	0.02	0.03	0.04
Gender	-0.02	-0.04	-0.05	-0.03	-0.04	-0.04
Education	-0.01	0.01	0.00	-0.01	-0.01	0.01
Risk probability	0.03	0.04	0.02	0.01	0.02	0.00
Pleasure	0.02	0.29	0.00	0.01	-0.02	-0.03
Risk importance	-0.09	-0.05	-0.03	-0.10	-0.05	-0.10
Sign	-0.05	-0.03	-0.04	0.00	-0.04	-0.05
Relevance	0.03	-0.02	-0.01	0.02	0.00	0.01
Knowledge	-0.04	-0.06	-0.06	-0.05	-0.05	0.04
Novelty	0.52***	0.45***	0.59***	0.58***	0.47***	0.53***
Appropriateness	0.45***	0.46***	0.43***	0.38***	0.34***	0.37***
Novelty × appropriateness	-0.22***	-0.20***	-0.15***	-0.20***	-0.16***	-0.18***
Risk probability × appropriateness		0.44***				
Risk probability × novelty		-0.33***				
Sign × appropriateness			0.59***			
Sign × novelty			-0.41***			
Relevance × appropriateness				0.25		
Relevance × novelty				-0.29*		
Pleasure × appropriateness					0.47***	
Pleasure × novelty					-0.40***	
Risk importance × appropriateness						0.57***
Risk importance × novelty						-0.34**
R^2	0.49	0.54	0.57	0.51	0.58	0.56
ΔR^2		0.05	0.08	0.02	0.09	0.07
ΔF		5.15***	6.62***	3.99***	6.76***	6.11***

* $p < 0.5$, ** $p < 0.01$, *** $p < 0.001$

may buy rather than artistic objects; and third, it analyzes the role of contingent factors. We find a negative interaction effect between novelty and appropriateness in influencing creativity, which suggests that the two variables trade off in affecting the perceived level of product creativity. Because consumers use only one variable at a time to develop their judgments, excessively high levels of one or the other might lower the perceived level of the creativity embodied in the product. We propose a contingency view of creativity, such that creativity is sometimes affected mainly by novelty and sometimes by appropriateness rather than requiring both novelty and appropriateness. These results are consistent with research on brand equity. Aaker (1996) relied on Young & Rubicam Brand Asset Valuator, which showed that brand strength is a suppressing multiplicative function of differentiation (how distinctive is the brand compared to other products) and relevance (how relevant and useful is the brand to the consumer). Differentiation and relevance are conceptually very similar to novelty and appropriateness, respectively. However, this work goes a step further by showing that involvement and knowledge have interactive effects on novelty and appropriateness.

Consumers highly involved with the product and those with less knowledge lend more to appropriateness, whereas consumers with high knowledge or low involvement rely more on novelty. To be creative, a product must be either very novel with low appropriateness or very appropriate with low novelty. This finding may be favored by managers, because developing both novelty and appropriateness is difficult and expensive. To differentiate products in a creative way, it can be enough to pursue either novelty or appropriateness, which should reduce firm investments. However, the downside is that managers cannot decide a priori which factor to emphasize because the value of each factor depends on some contingencies. To beat competitors in the creativity race, firms must develop the capability to swing, for each new product introduction, between novelty and appropriateness, depending on consumer characteristics rather than simply investing a priori in one of the two.

Figuring out the right segment is a vital yet challenging activity for managers involved in new product launches. We suggest that managers should select the initial segment according to the level of novelty and appropriateness embodied in their product. When managers perceive appropriateness as the main added value, highly involved consumers should be targeted first because they are most likely to perceive the product as creative. In contrast, when novelty is predominant, firms should target those consumers with greater knowledge of the product class.

As with any study, these findings must be evaluated in light of certain limitations, which should also stimulate further research. First, our models explain from 44% to 59% of the variance in consumer perceptions of product creativity, which indicates that we are missing something. After borrowing from psychology, marketing scholars now should develop specific constructs, beyond novelty and appropriateness, which may be relevant to product creativity. Second, it may be interesting to evaluate how the effects of novelty and appropriateness on product creativity change along the new product life cycle. Indeed, as a product category reaches its maturity stage, consumers may be

more responsive to novelty, whereas in the introductory phases, they may be responsive to the appropriateness of the product. Finally, other variables can moderate the effect of novelty and appropriateness on creativity. For instance, positive affect has been shown to have an impact on the way people make decisions (Isen 2001). Similarly, Förster et al. (2004) showed that abstract cognitive representations influence creativity. Future research could test their moderating effects.

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Appendix 1: The car presented in the questionnaire



Appendix 2: Scale items

Except when indicated, all Likert-type items use seven-point scales anchored at “Strongly disagree” and “Strongly agree.”

A. CREATIVITY (Amabile 1983)

(Mean=4.76; S.D.=1.5)

Using your personal definition of creativity, how creative is this product with regards to similar products?

1 = not at all, 7 = extremely creative

B. NOVELTY (adapted from Im and Workman 2004)

(Mean=21.99; S.D.=7.48; AVE=.52; CR=.91; α =.93)

This car:

	Standardized factor loadings
1. is really “out of ordinary”	.91*
2. can be considered as revolutionary	.939*
3. is not conventional ^{^^}	.616*

4. is in line with the other cars in the market [^]	.781*
5. provides radical differences from other cars	.898*
6. shows an unconventional way of solving problems	.789*
C. APPROPRIATENESS (adapted from Im and Workman 2004)	
(Mean=14.87; S.D.=6.93; AVE=.73; CR=.91; α =.93)	
This car:	Standardized factor loadings
1. is relevant to my needs and expectations	.932*
2. is considered unsuitable for my desires [^]	.957*
3. is appropriate for my needs and expectations	.962*
4. is useful for me	.937*
D. INVOLVEMENT (Jain and Srinivasan 1990)	Standardized factor loadings
(Mean=54.59; S.D.=22.82; AVE=.40; CR=.84; α =.90)	
Risk Probability	.752*
(Mean=9.47; S.D.=4.83; AVE=.70; CR=.87; α =.95)	
1. In purchasing a car (camera), I am certain of my choice [^]	.934*
2. I never know if I am making the right purchase	.927*
3. I feel a bit at a loss in choosing a car	.932*
Pleasure	.941*
(Mean=11.02; S.D.=5.12; AVE=.64; CR=.84; α =.94)	
1. I do not find cars pleasurable [^]	.93*
2. I think cars are exciting	.91*
3. I think cars are fun	.928*
Risk Importance	.747*
(Mean=12.85; S.D.=5.93; AVE=.78; CR=.90; α =.97)	
1. It is really annoying to make an unsuitable purchase	.971*
2. A poor choice would be upsetting	.98*
3. There is little to lose by choosing poorly [^]	.929*
Sign	.846*
(Mean=9.42; S.D.=5.31; AVE=.69; CR=.87; α =.95)	
1. My car tells others something about me	.937*
2. Others use the car I own to judge me	.896*
3. My car does not portray an image of me to others [^]	.982*
Relevance	.814*
(Mean=11.76; S.D.=5.79; AVE=.61; CR=.82; α =.95)	
1. The car is non-essential*	.921*
2. The car is beneficial	.937*
3. The car is needed	.929*
E. KNOWLEDGE (Mitchell and Dacin 1996)	Standardized factor loadings
(Mean=18.04; S.D.=8.23; AVE=.52; CR=.84; α =.94)	
1. I am really familiar with cars	.941*
2. I have clear ideas about which characteristics are relevant in providing me with maximum usage satisfaction	.904*
3. I know little about cars [^]	.771*

4. I am very interested in cars	.862*
5. I frequently read cars magazines^^	.414
6. How would you rate your knowledge about cars relative to the rest of the population? (1 = one of the most knowledgeable people; 7 = one of the least knowledgeable people)	.929*
F. AESTHETIC APPEAL	Standardized factor loadings
(Mean=12.51; S.D.=4.7; α =.937)	
This car is:	
1. Good–bad	.932*
2. Ugly–beautiful^	.973*
3. Pleasant–unpleasant	.951*
G. TECHNICAL GOODNESS (Amabile 1996)	
(Mean=4.06; S.D.=1.61)	
1. This product is good technically	

* Factor loading significant at the .000 level.

^Reverse coded.

^^ Item deleted because of low factor loading.

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