

# Evaluation Strategies of American and Thai Consumers

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## ABSTRACT

**The effects of two factors (congruity of product information with consumer expectations and perceived risk associated with the product) on strategies used by consumers to evaluate products are tested in the United States and Thailand. When product information does not match expectations, consumers in both cultures increase evaluation effort and shift from using summary representations stored in memory to evaluation based on actual product attributes. Perceived risk also enhances evaluation effort in both cultures, but does not result in a similar shift from category-based to attribute-based processing. © 1994 John Wiley & Sons, Inc.**

The debate over globally standardized marketing has relied heavily on the perceptions of international managers and scholars (e.g., Douglas & Wind, 1987; Levitt, 1983). Only a few studies have approached the issue from a consumer behavior perspective (cf. Green & Langeard, 1975). Reflecting this situation, scholars have stressed the importance of additional research that tests the validity of domestic consumer theory in foreign cultures (cf. McCarty, 1989). In line with such recom-

mendations, this study tests whether a product information factor (differences from expectations stored in memory) and a motivational factor (perceived risk) have similar effects on the types of evaluation strategies used by consumers in two different cultures.

## CATEGORY-BASED EVALUATION

### Domestic Replication and Extension

Fiske and Pavelchak (1986) hypothesize that when people are confronted with another person or object, they attempt to categorize this person or object by comparing it to a typical representation in memory. If the stimulus (e.g., a consumer product) is seen as congruent with expectations, category-based evaluation is predicted. Under category-based processing, evaluations of the consumer product would be based primarily on a stored representation evoked by the product category label (e.g., toothpaste), rather than specific attribute information that characterizes the actual product (tastes like mint, fights tartar, contains fluoride, freshens breath, whitens teeth, etc.). For example, the category label, *sports car* may cue from memory an evaluation that is based on beliefs and feelings about this type of car (e.g., a small car that is fast, sleek, maneuverable, and fun to drive). However, categorization of the stimulus may fail if one or more salient product attributes are "dramatically inconsistent" (Fiske & Pavelchak, 1986, p. 174) with expectations from memory (e.g., a sports car with four doors). In such cases, individuals are likely to rely less on their product category representation from memory and instead shift to evaluation based on actual product attributes.

Sujan (1985), Meyers-Levy and Tybout (1989), and others have applied this stream of categorization theory to consumer behavior. In Sujan's (1985) study, both experts and nonexperts formed evaluations based on summary representations in memory when information in an advertisement for a new camera matched expectations cued by the category label (i.e., 35-mm camera). In the mismatching condition (i.e., 35-mm camera category label with product information for a 110 camera), only experts discounted the label and based their evaluations on actual attributes listed in the ad. Nonexperts, however, appeared to continue to rely on summary representations from memory associated with the category label (i.e., 35-mm camera), deeply discounting attribute information in the ad. Thus, it appears that experts had the ability to notice the mismatch or incongruity, whereas nonexperts did not. As a result, although experts shifted from category-based to attribute-based evaluation, nonexperts remained in a category-based evaluation mode.

In the present study, we hold ability constant and attempt to replicate the effect of incongruity between expectations and new product infor-

mation on consumer evaluation strategy. Thus our first hypothesis states:

- H1:** Given ability, perceived incongruity between the category label and product description results in employment of more attribute-based as opposed to category-based evaluation of new product information.

We also attempt to extend the literature by testing for a similar shift in evaluation strategy due to another contextual variable, perceived risk. Modeled as the interaction between perceptions of purchase decision importance and the probability of an unsatisfactory purchase (Dowling, 1986), perceived risk appears to heighten involvement in the situation (Laurent & Kapferer, 1985). Richins and Bloch (1986, p. 280) conclude that "engaging in a risky purchase is probably the most common source" of situational involvement. Similarly, Lichtenstein, Bloch, and Black (1988) argue that consumers may be involved in a purchase decision due to high perceived risk associated with certain choices, even when they possess little interest in the product class.

Because perceived risk is likely to heighten situational involvement, it is also likely to increase elaboration of product information (Deshpande & Hoyer, 1983; MacInnis & Jaworski, 1989; Petty & Cacioppo, 1986). Furthermore evidence from the social cognition literature suggests that this elaboration may take the form of a shift from category-based to attribute-based evaluation. In particular, Neuberg and Fiske (1987) report that subjects dependent on a second person to accomplish a task evaluated this person using his or her actual characteristics rather than a category label provided by the researchers (schizophrenic person). When not dependent on the other person to accomplish a task, subjects tended to use information in memory associated with the category label to form their evaluation. This result occurred whether detailed information provided by researchers about the second person matched or did not match general expectations for *schizophrenic person*.

The Neuberg and Fiske (1987) study indicates that in addition to information incongruity (Sujan, 1985), heightened situational involvement (in this case, as a result of dependency on the second person to accomplish a task) can cause a shift from category-based to attribute-based evaluation. However, this possibility does not appear to have been tested in a consumer context. Thus, we seek to extend the current literature by hypothesizing:

- H2:** Given ability, higher levels of perceived risk result in employment of more attribute-based versus category-based evaluation of new product information.

### **Cross-Cultural Application of Categorization Theory**

The evaluation of people and objects using summary representations stored in memory (e.g., prototypes or typical category members, cf.

Cohen & Basu, 1987) is likely to be a universal phenomenon (Rosch, 1977). At the same time, the specific characteristics of these representations often vary across cultures (Pick, 1980; Rosch, 1977). For example, people in most cultures appear to store summary representations in memory for "typical foods eaten upon rising in the morning." Hence, the maintenance of such structures is likely to be a global phenomenon. However, cultures vary in terms of the actual characteristics of typical breakfast foods (e.g., cereal, fruit, and milk in the U.S. versus fish, rice, and pickled vegetables in Japan). Thus categoric content is likely to be culture specific.

Although the use of product category representations in forming evaluations may be a global phenomenon, the impact of various contextual factors on how consumers employ these structures has yet to be examined in national cultures outside of the United States. For example, we know that, given ability, information incongruity (as one contextual factor) can cause a shift from category-based to attribute-based evaluation (Sujan, 1985). However, it is not known whether such effects will replicate in a foreign culture.

Understanding the effects of contextual factors such as incongruity may enable prediction of optimal levels of marketing mix adaptation to cultural expectations (cf. Douglas & Wind, 1987). Take the case of a firm that wants to export red-skinned apples to another country. If the target culture's category prototype for apple includes the attribute *green skin*, categorization theory predicts that the imported apple's incongruent attribute, *red skin*, will cause consumers to shift from passive categoric processing to more active consideration of product attributes. Once in this mode, a less favorable impression might result if red skin is evaluated negatively and included along with memory-based factors in a multiattribute evaluation (Fiske & Pavelchak, 1986). Thus, verification of similar processing responses to incongruity across cultures may enable firms to anticipate and even encourage alternative evaluation strategies; for example, in some cases, product information might deliberately emphasize a culturally incongruent attribute to encourage attribute-based evaluation.

Perceived risk also appears to be an important contextual factor whose potential ability to induce processing shifts warrants exploration in multiple cultures. For example, perceived risk has been found to be more pervasive in developing countries (LDC). In fact, Thorelli (1986, p. 22) concludes that the "outstanding feature" of the consumer buying process in LDCs is that it is "so often fraught with risk." If risk in the LDC marketplace is indeed more pervasive, then based on Neuberg and Fiske (1987), one might expect relatively less category-based and more attribute-based evaluation of product information.

First, however, it would appear important to establish that heightened risk can lead to similar evaluation strategy responses in very different national cultures. Given studies demonstrating formation and

use of category structures from memory in multiple cultures (e.g., Rosch, 1977), we propose that similar relationships between evaluation strategy used by consumers, incongruity, and risk will be found under experimental conditions in a second national culture. Thus, this study tests the proposition that H1 and H2 will hold for consumers in the southeast Asian country of Thailand.

## **METHOD**

### **Cross-Cultural Considerations**

Cross-cultural research requires careful management of threats to internal validity (Brown & Sechrest, 1980). Yet, culture is flawed as a treatment variable because neither randomization (a key hedge against threats to internal validity) nor independent observations (an assumption of most statistical operations) appear possible (Malpass & Poortinga, 1986). Another drawback to using culture as a treatment variable is that functional, conceptual, and measurement equivalence are all required (Hui & Triandis, 1985).

In response to these problems, Malpass and Poortinga (1986) suggest a design referred to as "comparison of inferences" (see also Davidson, 1980, for "boundary testing"). This design involves testing hypothesized relationships among variables within each culture rather than mean differences between cultures. One advantage to the comparison of inferences approach is that the number of alternative explanations that may account for relational differences within a culture is considerably less than the number that might explain mean differences across cultures. Another is that variables that could confound interpretations of mean differences are less likely to affect the strength of relationships between variables, avoiding spurious positive findings (Malpass & Poortinga, 1986). Furthermore, functional and conceptual but not measurement equivalence are required (Hui & Triandis, 1985). Indeed, operationalization of treatment variables may differ between cultures as long as relative differences on the dimension of interest are created (cf. Lonner & Berry, 1986). Finally, Hui and Triandis (1985) argue that only after repeated findings of within-culture predictive validity should the researcher attempt to metrically assess between culture differences. Given the absence of previous research, this study follows the comparison of inferences approach and independently tests hypotheses in each culture using a  $2 \times 2$  between-subjects MANCOVA design.

Internal validity considerations should also drive selection of the culture used in the comparison of inferences test (Malpass & Poortinga, 1986). Thailand was chosen in part because of its proximity to the U.S. on Hofstede's (1983) "uncertainty avoidance" dimension. Such proximity seemed likely to reduce the possibility of a confound due to variable cultural propensities to engage in risk taking. Evidence of higher

marketplace risk relative to the U.S. (Thorelli & Sentell, 1982) is a second reason for selecting Thailand. If similar relationships between risk and processing are found in the lab, higher levels of marketplace risk in Thailand may facilitate generation of post-hoc hypotheses concerning modal use of alternative evaluation strategies by consumers in the two markets. Finally, Thailand differs dramatically from the U.S. in terms of economic development (Strategic guide, 1989) and several major cultural dimensions (Fieig, 1980). Establishment of similar processing responses to incongruity and risk in such diverse environments should strengthen confidence in the applicability of significant findings across a variety of cultures.

Managing threats to validity in cross-cultural research also requires equivalence of experimental materials (Hui & Triandis, 1985). For example, to maximize construct validity, a product category low on involvement in both cultures and for which subjects in the U.S. and Thailand were likely to have had equal levels of experience had to be used. In addition, the product category needed to serve similar purposes (functional equivalence) and hold similar meanings (conceptual equivalence; Hui & Triandis, 1985). To maximize equivalence, extensive pretesting was undertaken.

### **Pretests**

Focus groups in both countries identified low-involvement, high-experience products that were also functionally and conceptually equivalent. Low cost ballpoint pens appeared to be the most equivalent. Based on open-ended attribute listings (Sujan, 1985), congruent and incongruent descriptions were created. All Thai materials were double-back translated (Lonner & Berry, 1986).

Pretest subjects from a large university in each culture (44 undergraduates in the U.S. and 40 undergraduates in Thailand) first rated how much risk they perceived to be associated with purchasing typical low-cost pens. This 7-point scale served as a pretreatment measure of risk associated with pen purchase. They next rated a high or low congruity description (see Figures 1 and 2) on a 7-point typicality scale (Fiske, Neuberg, Beatty, & Milberg, 1987). To evoke consensual schema, the product description was labeled as "The College Student Pen." Thereafter, subjects read one of two perceived risk treatments (see Figures 3 and 4) indicating that variability in low-cost pen dependability had either increased or decreased. The passages reflected differences in local conditions (e.g., different names of retailers sponsoring the study) but were otherwise familiar. As the final measure, subjects again indicated how much risk they felt was associated with purchasing low-cost ballpoint pens.

The incongruity treatment was found to be successful. Mean typicality ratings significantly differed in both countries by more than two

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The College Student's Ballpoint Pen

- Plastic casing  
The pen is available in clear or colored plastic casing.
  - Disposable cartridge  
The pen's cartridge is not replaceable—it's a disposable pen.
  - Capped or retractable ballpoint  
The pen comes in a capped or retractable model.
  - Fine or medium ballpoint  
The pen comes in fine or medium point for precision writing.
  - Black or blue ink  
The pen is available in black or blue ink models.
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**Figure 1 High-Congruency Treatment.**

scale points in the predicted direction (U.S., 5.6 versus 3.0;  $t[42] = 5.3$ ,  $p < .01$  and Thailand 5.6 versus 3.3;  $t[38] = 6.11$ ,  $p < .01$ ). With respect to the perceived risk treatment, analysis of pre- versus post-treatment means in the U.S. indicated that the low-risk passage significantly reduced risk (pretreatment mean = 4.8 versus post-treatment mean = 4.2,  $t[21] = -2.27$ ,  $p < .02$ ), whereas the high-risk passage appeared to marginally heighten risk (pretreatment mean = 4.3 versus post-treatment mean = 4.6,  $t[21] = 1.33$ ,  $p < .10$ ). In the Thai sample, the low-risk passage did not significantly reduce risk, possibly because inherently higher levels of uncertainty in the Thai marketplace (Thorelli, 1986) proved resistant to treatment. However, the high-risk passage significantly increased perceptions of risk as intended (pretreatment mean = 3.95 versus post-treatment mean = 4.5,  $t[19] = 1.93$ ,  $p < .04$ ). Although the directional effects of the risk treatment are dissimilar, a relative difference in risk perception between high and low groups was

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The College Student's Ballpoint Pen

- Metallic casing  
The pen is available in either green or red metallic casing.
  - Replaceable cartridge  
The pen's cartridge can be replaced by purchasing a refill.
  - Rotation retractable ballpoint  
The ballpoint retracts by rotation of the pen's upper casing.
  - Heavy ballpoint  
The pen comes with a heavy ballpoint for thick writing.
  - Green, red or blue ink  
The pen is available in green, red, or blue ink models
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**Figure 2 Low-Congruency Treatment.**

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### Study Finds Low Cost Ballpoint Pens Very Dependable

Low cost ballpoint pens used on America's college campuses, in workplaces and in homes have become far more dependable since our last study in 1985. In both research projects, representative samples of available low cost pens were used and rigorous testing procedures were followed.

In the 1985 study, approximately 70% of the pens performed dependably during the four-week test period. This time, more than 85% of the pens performed very reliably throughout the four week test period. Less than 10% seriously malfunctioned despite repeated application in a variety of usage conditions. All pens functioned properly on initial trial.

In conclusion, retailers can be confident that today's typical low cost ballpoint pens are generally very dependable.

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**Figure 3** Low-risk manipulation. Source: Research Associates, Inc., Dallas, TX: "Low Cost Pen Study #2—Executive Summary" (November 12, 1988), p. 1.

created in each culture. Given the study's comparison of inferences approach, the existence of a relative difference between high- and low-risk groups in each culture rather than the direction of that difference is crucial. No significant differences between high- and low-risk groups in terms of the passages' perceived credibility were found. Finally, following pretests, the treatments were slightly modified (e.g., one or two words were deleted or added to the information treatments to assure equivalent length).

A second pretest was conducted to ensure that the two independent factors were not confounded. Fifty-seven undergraduate subjects at a large American university were divided into four groups which first read either the high- or low-risk manipulation and were then given the high- or low-congruent description and asked to form an impression of

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### Study Finds Low Cost Ballpoint Pens Less Dependable

Low cost ballpoint pens used on America's College campuses, in workplaces and in homes vary a great deal more on dependability than they did in 1985. In both research projects, representative samples of available low cost pens were used and rigorous testing procedures were followed.

In the previous study, 15% of the pens suffered a major malfunction during the two week test period. This time, however, almost 35% of the pens suffered a major malfunction during the test and had to be discarded.

For example, many of the pens leaked while in the participants' shirt pockets or purses, splotted on participants' documents or suffered from repeated ink stoppage. Another 10% failed on initial trial and also had to be discarded. Hence, only 55% of the pens performed reliably over the entire two week period.

In conclusion, retailers should be aware that the reliability and dependability of low cost ballpoint pens varies a great deal more today than in the past.

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**Figure 4** High-risk manipulation. Source: Research Associates, Inc., Dallas, TX: "Low Cost Pen Study #2—Executive Summary" (November 12, 1988), p. 1.



the product. They next responded to several risk measures (all 8-point scales), for example, probability of loss (e.g., performance risk; Jain & Srinivasan, 1990). The results reconfirmed the impact of the risk manipulation on the perceived riskiness of ballpoint purchase with the two performance risk measures, reflecting significantly heightened concerns about ballpoint pen dependability following treatment ( $p < .03$ ). In addition, the main effect for incongruity on risk perception and the interactions for all measures were not significant ( $p > .25$ ), indicating that the experimental treatments were not confounded.

## Subjects

For the main study, American and Thai samples were matched on multiple criteria (Lonner & Berry, 1986) by recruiting from upper division business classes at a major urban university in each country. Cell size was a particular concern because of higher levels of Type II error in cross-cultural replication (Malpass & Poortinga, 1986). Given an omega-squared of 0.10 and Type I error rate of 0.05, 20 subjects per cell yields a power level of 0.85. A total of 83 American and 88 Thai subjects were recruited. Based on the focus groups, American subjects received \$5.00 and Thai subjects received Baht 50 (about \$2.00). Two U.S. and nine Thai subjects were eliminated due to misperception of treatment stimuli or excessive talking during the reading or processing task. One U.S. subject with a processing time three standard deviations beyond the cell mean was also dropped. Hence, 80 U.S. (mean age 21.6 years/39 men and 41 women) and 79 Thai subjects (mean age 20.25 years/36 men and 43 women) were used.

## Procedure

In both countries, the experiment was conducted in a quiet room. An unobtrusive video camera recorded subjects' reading speeds, processing times, and cognitive responses. Subjects were randomly assigned to one of four treatment conditions (congruence by perceived risk). The experimental moderator was blind to treatment conditions in both countries. In Thailand, a bilingual Thai graduate student served as the moderator, reducing chances of respondent bias due to foreign involvement (Brislin, Lonner, & Thorndike, 1973).

Subjects first read an introductory passage explaining that local retailers were sponsoring the study to learn more about college student attitudes toward consumer nondurables. The nonevaluative passage also stressed that there were no wrong answers and asked for confidentiality. They next completed a questionnaire on demographics and general attitudes toward low-cost pens. Then, the moderator explained that large, local retailers often sponsored studies on product dependability. They were instructed to read the "Executive Summary" from a

recent study on low-cost pens. This passage constituted the perceived risk treatment. After reading the passage, subjects were asked to look at the product information treatment to form an impression of a low-cost pen that might be sold at some point in the future. When finished, subjects were immediately instructed to verbalize any thoughts they had while forming their impression. They then filled out a questionnaire evaluating the offering and determining the extent of hypothesis guessing and/or demand effects, were debriefed and paid.

### **Dependent Measures**

*Response Times.* The time taken to read the introductory passage served as a baseline reading speed measure, and time taken to form an impression of the pen description was the dependent measure. With response time measures, it is assumed that the longer a subject takes to form an impression, the more likely it is that he or she is engaged in attribute- versus category-based processing (Sujan, Neuberg, & Fiske, 1987; Sujan, 1985). Response time, based on subject eye contact with the printed material as recorded on videotape, was measured post hoc with a stopwatch by an experimenter blind to treatment conditions.

*Thought Listings.* In line with research by Sujan (1985) and others, verbal responses were collected immediately following exposure to the pen description. Subjects were asked to describe all thoughts they remembered having while looking at the product description. This prime was repeated two times. Verbal responses were subsequently transcribed in the appropriate language by native speakers. Each transcription was then coded by two native speakers. Based on Sujan (1985) and Fiske et al. (1987), five measures were of interest: total thoughts, category thoughts, all attribute thoughts other than nonevaluative recall, attribute recall, and other thoughts. Interjudge agreement was 81% for the American and 93% for the Thai sample. Disagreements were resolved by the coders with a tie-breaking vote cast by the experimenter when necessary.

## **RESULTS**

### **American Sample Results**

A  $2 \times 2$  between-subjects MANCOVA was employed to test the hypotheses that under low congruity and high risk consumers in the U.S. favor attribute- over category-based processing. A plot of processing response time and the reading speed covariate indicated the presence of nonlinearity. Hence, the variables were double-log transformed (Lilien & Kotler, 1983) to produce a significant linear relationship ( $F[1,78] = 4.87, p < .03$ ). As the study's hypotheses involved main

**Table 1 U.S. Cell Means for Dependent Measures.**

Dependent Measures	Low Perceived Risk		High Perceived Risk	
	High Congruent	Low Congruent	High Congruent	Low Congruent
Processing speed (s)	21.84	28.25	25.23	33.82
Total thoughts	2.80	4.00	3.55	4.60
Category thoughts	0.85	0.35	0.95	0.20
Attribute thoughts	0.60	2.10	0.40	3.25
Cell sizes	20	20	20	20

effects and as the interaction term in the full factorial model was insignificant ( $p > .10$ ), a main-effects-only model was tested.

Given the U.S. sample means (see Table 1) for each measure by condition, it appears that the overall MANCOVA supports H1, replicating Suján's (1985) incongruity effect on processing for a lower-involvement, higher-experience product category ( $F[4,72] = 18.89, p < .001$ ). In addition, heightened perceived risk appeared to increase use of attribute-based processing of pen product information in the U.S. sample ( $F[4,72] = 2.81, p < .03$ ), thus supporting H2. To further examine support for the hypotheses, univariate analysis was undertaken.

As predicted, the processing response times for low-congruity subjects were significantly longer (adj. mean = 31.04 seconds) than for high-congruity subjects (adj. mean = 23.54 seconds;  $F[1,76] = 19.12, p < .001$ ). The processing response time measure also provided evidence of a perceived risk effect on processing strategy ( $F[1,76] = 6.78, p < .01$ ) as high-risk subjects (adj. mean = 29.25) took longer to process the product stimulus than low-risk subjects (adj. mean = 25.01).

Also supporting both hypotheses, low-congruity subjects expressed significantly more thoughts (mean = 4.30) than high-congruity subjects (mean = 3.18;  $F[1,77] = 14.02, p < .001$ ), as did high risk subjects (mean = 4.1) relative to low-risk subjects (mean = 3.4;  $F[1,77] = 5.05, p < .03$ ). Evidence for both H1 and H2 on the category thoughts measure was mixed. Low-congruity subjects (mean = 0.28) expressed significantly fewer category thoughts than high congruity subjects (mean = 0.90;  $F[1,77] = 16.92, p < .001$ ) as predicted, but the difference between high- and low-risk subjects on category thoughts was not significant ( $F[1,77] < 1$ ). Finally, as hypothesized, the number of attribute evaluations expressed by low-congruity subjects (mean = 2.68) was significantly greater than the number expressed by high-congruity subjects (mean = 0.50;  $F[1,77] = 56.80, p < .001$ ). High perceived risk had a marginally significant effect in the predicted direction, as high-risk subjects expressed more attribute evaluations (mean = 1.83) than low-risk subjects (mean = 1.35;  $F[1,77] = 2.71, p < .10$ ).

Based on these results, it appears clear that low-congruity and high perceived risk increase American consumers' depth of processing. Fur-

thermore, although support is found for a shift from category-based to attribute-based processing due to information incongruity, the evidence is less compelling for a similar effect due to heightened perceived risk. We next report the results of the “comparison of inferences” test in Thailand.

### Thai Sample Results

Plots of processing response time and reading speed again revealed that a double log transformation again produced the best fit between the two variables ( $F[1,77] = 11.97, p < .01$ ). The interaction term in the  $2 \times 2$  full factorial MANCOVA was insignificant ( $p > .10$ ). Thus a main-effects model was applied. See Table 2.

As in the American study, low congruity exerted a significant effect in the overall MANCOVA model ( $F[4,71] = 5.19, p < .001$ ). The perceived risk effect was also significant ( $F[4,71] = 2.67, p < .04$ ). Thus the MANCOVA model appeared to replicate both hypothesized effects in Thailand, supporting the proposition that similar relationships between congruity, risk, and processing would be found in both cultures.

In the univariate analyses that followed, incongruence had a significant main effect on processing time, with low-congruity Thai subjects (adj. mean = 28.20) taking longer to process the information treatment than high-congruity subjects (adj. mean = 23.77;  $F[1,75] = 10.19; p < .002$ ). High-perceived risk Thai subjects (adj. mean = 28.24) also took significantly longer to form an impression than did low-risk subjects (adj. mean = 23.73;  $F[1,75] = 9.29, p < .004$ ). Thus the elaboration effects for low congruity and high perceived risk were replicated in the Thai sample.

On the individual thought listing measures, incongruence exerted a significant effect on the number of attribute evaluations, with low-congruity Thai subjects (mean = 1.66) expressing more attribute evaluations than high-congruity subjects (mean = 0.71;  $F[1,76] = 9.50, p < .003$ ). The total thoughts measure approached significance, with low-congruity Thai subjects (mean = 4.51) marginally reporting more

**Table 2 Thai Cell Means for Dependent Measures.**

Dependent Measures	Low Perceived Risk		High Perceived Risk	
	High Congruent	Low Congruent	High Congruent	Low Congruent
Processing speed (s)	22.26	25.20	25.28	31.19
Total thoughts	3.75	4.60	3.78	4.43
Category thoughts	0.25	0.10	0.22	0.14
Attribute thoughts	0.75	2.00	0.67	1.33
Cell sizes	20	20	21	18

thoughts than high-congruity subjects (mean = 3.76;  $F[1,76] = 2.65$ ,  $p < .11$ ). In addition, the mean number of category thoughts for the high-congruent condition (mean = 0.24) versus low-congruent condition (mean = 0.12) was directionally consistent with the research proposition but not significant ( $F[1,75] = 1.48$ ,  $p < .23$ ), possibly due to the very low number of category thoughts expressed by Thais across all conditions (i.e., ranging from a total of five category thoughts under low risk, high congruity to two category thoughts under low risk, low congruity). Finally, no significant effects for perceived risk were found for the three thought measures.

These results indicate that incongruence from product category expectations results in a shift from category- to attribute-based processing in both the U.S. and Thailand. And, based on the impression formation time measure, it also appears that higher perceived risk results in elaborated processing in Thailand. However, as in the U.S. study, it is less clear that risk produces a shift from category- to attribute-based processing.

## DISCUSSION

Despite obvious limitations (i.e., two countries, one product, and student samples), the fact that incongruity exerted a strong effect in both the American and Thai studies suggests that, given ability, the Fiske and Pavelchak (1986) model of categoric- versus attribute-based processing may apply in multiple cultures. Of course, prior to assuming that incongruity will produce a shift from category-based to attribute-based processing in a given cultural context, a comparison of inferences test is advisable.

For example, as demonstrated by Sujan (1985), varying levels of product category expertise may influence processing response to incongruity, with nonexperts remaining in a category-based mode despite a mismatch between the category label and actual attributes. In this study, a product for which American and Thai consumers had considerable experience was used. In contrast, for new products for which consumers have poorly defined category structures (e.g., product categories that are just being introduced in a foreign market), the processing shifts found in this study may not apply. These results appear most applicable to lower-involvement, higher-experience products for which consumers have well-developed product representations (cf., Medin, 1989 and Ratneshwar & Shocker, 1988). In sum, the incongruity effect may be universal but it is likely to be moderated by culture-specific factors such as product category expertise.

For these types of products, the results of the present study suggest two managerial strategies. On the one hand, it may be desirable for consumers to evaluate information in a category-based manner. This

would most likely be relevant when a foreign brand is being introduced into a market where there is a well-entrenched brand or set of brands and the goal is to position the new brand as similar to or as a substitute for the existing brand(s). In this case, category-based processing on the part of consumers would allow the overall category evaluation from memory to be transferred to the newly introduced, relatively unknown brand. Then, if the new brand has a competitive advantage on an important attribute (e.g., price, more attractive package), the probability of choice may be increased.

In other instances, it may be desirable to encourage attribute-based evaluation. This would be particularly desirable in situations where a newly introduced brand is clearly distinguishable from existing brands and has the potential to satisfy consumer needs more fully. In these situations, the brand should be positioned as different from existing brands as possible to create incongruity and thereby generate attribute-based evaluation. It would then be critical to ensure that the new brand is rated highly on the most important attributes. The end result of deliberately encouraging a shift to attribute-based evaluation would hopefully be a more positive attitude and intention toward the new brand.

Turning to the second contextual variable, perceived risk appeared to increase evaluation effort for both American and Thai subjects. This result was consistent with the Petty and Cacioppo's (1986) notion of enhanced elaboration under higher situational involvement (i.e., ELM). However, as noted, the absence of significant results on the category thoughts measure in both cultures suggests that risk may not cause a shift from category-based to attribute-based evaluation of product information. That is, although evidence of more intense elaboration in response to risk was found in both cultures, it may be that such elaboration involved deeper processing of memory-based information rather than a shift to processing of actual product attributes. In sum, although consumers in both the U.S. and Thailand are likely to exert more mental effort in response to high perceived risk, the nature of the elaboration response requires clarification.

It is also interesting to note that Thai subjects tended to express more total thoughts on average than did the American subjects (see Tables 1 and 2). In addition, a substantially larger share of the total Thai thoughts were classified as attribute recall and other thoughts than in the American sample. Although it is not clear why this occurred, experimental error undoubtedly played a role (Douglas, 1980). At the same time, future research should analyze cognitive responses to product information in greater depth to determine whether a culture-specific scheme might more effectively capture the richness of the processing response in different national markets. It seems quite possible that foreign consumers have thoughts that do not fit into Western culture categories.

Finally, the fact that Thai subjects expressed fewer category thoughts than American subjects regardless of treatment condition may point to interesting differences between consumers in developed and developing countries. This result may be due to more limited use of category thoughts by Thai consumers irrespective of consumption context. Indeed, given higher levels of perceived risk in the overall marketplace (Thorelli, 1986), developing country consumers may generally rely less on category-based representations in forming new product impressions, whereas developed country consumers may more frequently shift strategies from category- to product attribute-based processes depending on contextual factors such as congruence and possibly, risk.

Future research on this question appears important, as one implication of such differences is that advertising that emphasizes overall product image for lower-involvement products in *developed* country markets might not be effective in *developing* country markets where more elaborated processing may be the norm. In other words, advertising for developing country markets may need to assume that consumers are processing in a more attribute-based than category-based manner and stress brand performance on key attributes. In employing such a strategy, it would be critical to identify and emphasize the determinant attributes for the particular product category and national culture.

## CONCLUSION

This study indicates that a universal component of categorization theory may involve similar processing shifts from category-based to attribute-based processing in response to the contextual factor, product information incongruity. In addition, heightened perceived risk appears to stimulate cognitive elaboration in very diverse cultures. Additional research is needed to more concretely specify the nature of the elaboration response to risk and to determine if there are any culture-specific differences in the nature of the enhanced elaboration (e.g., do Americans more frequently rely on subtypes, whereas Thais have more discrepancy thoughts in response to risk; see Sujan, 1985).

Another important question which remains to be answered involves the extent to which elaboration of product information for high-experience, low-involvement goods may vary due to different levels of macrolevel risk in the marketplace. Finally, elaboration in response to risk seems likely to interact with cultural factors such as the desire to avoid uncertainty or engage in risk-taking behavior. Although the possibility of such a confound was greatly reduced in this study through selection of an appropriate test site, future research should examine how such culture-specific factors interact with processing responses to heightened levels of risk.

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