COUNTRY OF ORIGIN EFFECTS: THE ROLE OF INFORMATION DIAGNOSTICITY, INFORMATION TYPICALITY AND INVOLVEMENT

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In this study, we examine the effect of information diagnosticity and information typicality on foreign product evaluation and country of origin evaluation respectively. We examine these effects under conditions of high vs. low consumer involvement. We argue that the effect of attribute information diagnosticity on foreign product evaluation will be more pronounced under conditions of high involvement than conditions of low involvement. In contrast, we propose that the effect of information typicality on country of origin evaluation will be greater under conditions of low involvement than under high involvement. Two studies were conducted that examined the hypothesized effects. Results show that perceived diagnosticity of the attribute information leads to more favorable foreign product evaluation. This effect was found to be more pronounced when involvement level was high. Furthermore, perceived typicality of the attribute information leads to more favorable country of origin evaluation. This effect was more pronounced when involvement level was low.

INTRODUCTION

Country of origin effect refers to the extent to which a product’s evaluation is affected by its place of manufacture (Gurhan-Canli and Maheswaran 2000). The effect of country of origin on consumers’ evaluations of foreign products has received increasing academic attention in recent years. The beginnings of this interest became apparent with the work of Nagashima (1970). It has thereafter evolved to become a significant area of investigation in the field of consumer behavior (Hong and Wyer 1989; Maheswaran 1994; Häubl 1996).

Prior research has mainly focused on how country of origin cues are used by consumers to evaluate foreign made products (Maheswaran 1994; Hong and Wyer 1989). Findings of this research stream indicate that consumers tend to hold either positive or negative perceptions of countries based on stereotypic beliefs. These perceptions are then transferred to products and services that originate in these countries and also affect the buyers’ attitudes, perceptions and behavior (Bilkey and Nes 1982; Yaprak 1987; Hooley, Shipley and Kreiger 1988).

In spite of the agreement among researchers that consumers’ evaluations of products could be based on country of origin stereotypes (Han 1989), there have been some mixed conclusions as to how these stereotypes are used to form consumers’ perceptions and evaluations (Hong and Wyer 1989; Maheswaran 1994). Major questions about the way consumers acquire, process and use the country of origin information have been raised (Gurhan-Canli and Maheswaran 2000). For example, it has not yet been clear to researchers the process by which country of origin information influences evaluations and why this process holds in certain cases and not in others (Li et al. 1993).

The current study extends prior literature on country of origin effects by examining the conditions under which counterstereotypic information leads to more favorable product and country of origin evaluations. We relate research in social psychology on the processing of counterstereotypic information to country of...
origin research. Specifically, we investigate the effect of the diagnosticity and typicality of counterstereotypic information on foreign product evaluation and country of origin evaluation respectively. We examine these effects under conditions of high vs. low consumer involvement. Furthermore, we argue that the effect of attribute information diagnosticity on foreign product evaluation will be more pronounced under conditions of high involvement than low involvement. In contrast, we propose that the effect of information typicality on country of origin evaluation will be greater under conditions of low involvement than high involvement.

Information diagnosticity has been described as the ability of the input to aid in the judgment task (Menon et al. 1995) while typicality refers to the perception that an exemplar is an accurate representation of the central tendency of the group to which it belongs (Rothbart et al. 1996). In the context of unfavorable country of origin associations, information diagnosticity and information typicality are particularly interesting because prior research has shown that both variables exert a considerable influence on consumer judgments and perceptions (Menon et al. 1995; Brown and Turner 1981; Loken and Ward 1990). Additionally, established models of information processing suggest that a consumer’s acceptance of a persuasive message not only depends on the type of information (i.e., diagnosticity and typicality) but also on the consumers’ level of involvement and cognitive processing (Petty et al. 1983). Applying these concepts to country of origin research should provide additional insight as to the determinants of country of origin and foreign product evaluation.

Two studies were conducted that examined the hypothesized effects. Study 1 examined the effect of information diagnosticity and involvement on the evaluation of foreign made products. Study 2 examined the effect of information typicality and involvement on the evaluation of country of origin. The balance of this research is organized as follows: In the next section, we present a discussion of the research problem and presentation of hypotheses. We then describe the data, methods and measures that were used in conducting the two experiments, followed by the presentation of the results. Finally, we conclude by identifying possible limitations and discussing several implications for scholarship and practice.

EFFECT OF COUNTERSTEREOTYPIC INFORMATION

Past research in social-psychology and consumer behavior indicated that consumers categorize objects into cognitive structures; also called categories (Lee 1995). These categories consist of objects that consumers perceive as alike or equivalent. Consumers develop these categories in an attempt to organize information and simplify decision making and evaluations (Fiske and Pavelchak 1986). These categories could be based on objective criteria such as “any sofa is considered a piece of furniture” or on subjective criteria such as stereotypes (Maheswaran 1994) that consumers hold such as “any German car is well engineered”.

When faced with an evaluation task, consumers often base their judgment on the affect they have towards the category that the object belongs to. In other cases judgments are based on the true merits of an object, reflected in the object’s attribute information (Lee 1995). According to Bobrow and Norman (1975) two types of information processing occur: the concept-driven, top-down processing and the data-driven, bottom-up processing. In the former type, evaluations are affected by expectations and prior beliefs. In the latter type, evaluations are steered by the actual characteristics of the stimulus (Hoch and Ha 1986).

Similarly, country of origin effects include two components. First, they involve cognitions, which emphasize specific product attribute information. The second component is affect, which is generally the feelings or attitude towards a country and its people (Knight 1999). Johansson (1989) has suggested that consumers
could make use of the country of origin as a summary cue to make assumptions about a product, in order to simplify information processing. For example, prior research on the effects of country of origin revealed that consumers’ evaluation of products that originate in developing countries receive less favorable evaluations than products made in more developed countries (Johansson 1989). Furthermore Hong and Wyer (1989) conducted a thorough study on the effects of country of origin. They concluded that country of origin could act a heuristic base to evaluate the product without giving consideration to product attributes. It could also affect the attention given to other product attribute information. Alternatively, it could be viewed as one attribute of the product in its own right (Hong and Wyer 1989).

An important theory of information processing is the assimilation-contrast theory. According to this theory objects can be evaluated in one of two ways, either by integrating the object into its associated category then basing the evaluation on category affect, or by contrasting the object with the category and making an evaluation that might contradict with category affect (Lee 1995). Assimilation takes place when the description of the object to be evaluated is congruent with the category it belongs to. Alternatively, contrast occurs when the description of an object does not fit with its primed category (Lee 1995).

In the context of this study, when evaluating a foreign made product, different modes of information processing could occur depending on the congruity between the product information presented and the country of origin stereotype. For example, when consumers are confronted with a description of a foreign product that is consistent with their stereotypes, assimilation will take place. Under such conditions, evaluation will be based on consumers’ previously held country of origin stereotypes. In contrast, when consumers are presented product information that violates their stereotypes, contrast takes place and they engage in more effortful attribute-based processing.

Then the question arises as to how can the effects of stereotype incongruent information on foreign product and country of origin evaluation be strengthened. In other words, what kind of counterstereotypic information would lead to more favorable foreign product and country of origin evaluations? We address this question in the context of the effects of information diagnosticity and information typicality on the evaluation of foreign made products and country of origin respectively.

INFORMATION DIAGNOSTICITY

Diagnosticity of attribute information helps to either confirm or disconfirm prior held beliefs and expectations. Menon et al. (1995) described diagnosticity as the ability of the input to aid in the judgment task. The perceived diagnosticity of the attributes refers to the consumers’ assessment of the usefulness of the attribute information in making evaluative judgments and choice. Non–diagnostic information is one that is subject to multiple interpretations (Herr, Kardes and Kim 1991).

Perceived diagnosticity of attribute information has a well documented research stream in the consumer behavior literature. Substantial research has provided evidence of the effect of perceived attribute diagnosticity on consumers’ evaluations (Jiang and Benbasat 2004/5; Garretson and Burton 2000; Kempf and Smith 1998; Yi and Gray 1996; Aaker, 2000). According to Jiang and Benbasat (2004/5) the more diagnostic an attribute, the more helpful this attribute is for consumers to evaluate the quality and performance of a product. For example consumers evaluating a foreign made vehicle could find information about engine horsepower and number of airbags more diagnostic or helpful in making an evaluative judgment as compared to information about exterior body paint or seat upholstery.

According to the accessibility-diagnosticity model, accessible information (i.e., stereotypes) is not used in the process of evaluation and choice in the existence of more diagnostic in-
formation (Feldman and Lynch 1988). The model describes diagnostic information as one that “helps consumers assign a product to one (and only one) cognitive category” (Herr, Kardes and Kim 1991). This model suggests that more diagnostic information is more likely to be used as an input for evaluative judgment than information that is ambiguous or non-diagnostic. Perceived diagnosticity thus offers a conceptual basis for product evaluations. Accordingly, attributes that are considered diagnostic will directly relate to the process of product evaluation while less diagnostic attributes would have a lower emphasis in overall product judgment (Garretson and Burton 2000). This proposition finds further support in the work of Kempf and Smith (1998) who found that perceived diagnosticity leads to more cognitive evaluation of product attributes. Furthermore, Ahluwalia and Gurhan-Canli (2000) claim that “unless the…information is highly diagnostic, consumers are more likely to revert to their prior beliefs and evaluations of the brand as an alternative input in forming judgments.”

Evidence from research on hypothesis testing suggests that consumers are likely to interpret less diagnostic information in a way that would support their prior held beliefs and expectations (Ford et al. 1996). In contrast, when the information presented is diagnostic, disconfirmation of prior expectations is more likely to occur. In a study conducted by Hoch and Ha (1986) subjects demonstrated strong assimilation effects in the evaluation of products when presented ambiguous information about product quality. However, when presented with unambiguous quality information, subjects relied more on the information rather than their prior expectations. Gray and Yi (1992) suggested that consumers’ attitudes maybe altered by emphasizing or priming highly diagnostic product attributes.

Applying the accessibility-diagnosticity model in the context of country of origin stereotypes, we should expect consumers that are presented diagnostic counterstereotypic information to be more likely to examine the true merits of the product as compared to those who are presented non-diagnostic counterstereotypic information. The latter group is expected to rely on more accessible information (i.e., country of origin stereotypes) in making judgments. Thus, positive attribute information that is perceived as diagnostic will be more helpful in disconfirming negative country of origin stereotypes than non-diagnostic information. To summarize, we expect that stereotype incongruent information that is perceived as more diagnostic to lead to more favorable product evaluations as compared to less diagnostic attribute information. We thus propose the following hypothesis:

**H1:** Evaluation of foreign made products will be more favorable in response to diagnostic attribute information than to non-diagnostic attribute information.

**EFFECT OF INVOLVEMENT**

Consumers could become highly involved in a purchase situation or with a product category when there are high stakes associated with their choice (Richins et al. 1992). Particularly, situational involvement reflects transitory feelings of heightened involvement “evoked by a particular stimulus or situation” (Rothschild 1984). Involvement has also been described as a long-term interest in a product. This interest is based on the centrality of the product to personal needs and values and is basically a function of differences among individuals (Bearden and Netemeyer 1999). In this study, we argue that the level of consumers’ involvement interacts with information diagnosticity to affect product evaluations.

The impact of communication mechanisms may differ between low involvement and high involvement individuals (Greenwald and Leavitt 1984) because the level of involvement affects the degree to which consumers process information and use cognition. Prior research suggests that higher levels of involvement increase a person’s tendency to think about a product’s attributes and lead to higher levels of cognitive efforts (Petty et al. 1983). This proposition finds further empirical support in the work of
Park and Hastak (1994). When measuring consumer evaluation response times, they found that in the low involvement condition, study participants relied on prior expectations. In contrast, when involvement was high subjects relied more on specific brand information and less on prior held beliefs.

Houston and Rothschild (1980) offered an interpretation of involvement that proposes that the consumer decision process increases in sophistication as the level of involvement increases. This claim was further supported by Greenwald and Leavitt (1984) who claimed that higher levels of involvement will be associated with “qualitatively distinct forms (levels) of cognitive activity”.

Building on the same argument, Petty et al. (1983) noted that “People are more motivated to devote the cognitive effort required to evaluate the true merits of an issue or product when involvement is high rather than low”. According to the Elaboration Likelihood Model, as the personal relevance of an issue increases (i.e., under conditions of high involvement) consumers use a central route to persuasion where they engage in more cognitive based evaluation of the task at hand. On the other hand, when involvement is low, a peripheral route to persuasion is used where consumers engage in heuristic processing of information using category cues (Petty et al. 1983). In other words, the amount of cognitive processing that occurs in evaluating a product will depend on the level of involvement, and variables that need an extensive use of cognition to be effective will have a larger influence under conditions of high involvement rather than conditions of low involvement (Petty et al. 1983).

Prior country of origin research has shown that consumers may use country of origin as an extrinsic cue to make inferences about product attributes and to simplify information processing (Janda and Rao 1997; Johansson 1989). Drawing on the elaboration likelihood model we expect low and high involvement consumers to differ in the extent to which they utilize country of origin stereotypes to make product judgments. Under low involvement, minimal information processing and greater reliance on stereotypes is anticipated. On the other hand because the focus of consumers under high involvement is on using attribute information to make judgment, we expect information diagnosticity to be more discriminating for the purpose of evaluation under conditions of high involvement than low involvement. Moreover, given that highly involved individuals are expected to engage in more effortful processing of information content, their product evaluations are expected to positively reflect the diagnosticity of the attribute information. Thus we expect the following hypothesis:

**H3:** The effect of attribute information diagnosticity on the evaluations of foreign made products will be more pronounced under conditions of high involvement than low involvement.

We also expect that consumers’ recall of information will be strongly tied to the elaboration on message content. Under conditions of high involvement, consumers are expected to recall more product attributes than under conditions of low involvement (Maheswaran 1994). Thus, we hypothesize:

**H4:** Consumers will recall more product related attributes under conditions of high involvement than low involvement.

**EFFECT OF INFORMATION TYPICALITY ON COUNTRY OF ORIGIN EVALUATIONS**

Even though diagnostic attribute information could possibly lead to more favorable product evaluations, rarely do these favorable evaluations reduce the bias toward country of origin. When confronted with stereotype inconsistent information of a target stimulus, consumers tend to dismiss this information as an exception to the rule rather than the norm (Wilder et al. 1996). Furthermore, research in categorization literature suggests that when consumers are
presented with information that is descriptively incongruent with their prior expectations they tend to engage in piecemeal processing of this information (Lee 1995). Wilder et al. (1996) note that examples that are descriptively incongruent with prior expectations are usually dismissed as a deviation from the norm and in some instances categorized as a subtype that do not represent the “normal state of affairs”. Moreover, Allport (1954) states that one can acknowledge an exception without having to change one’s held stereotypes.

Attitudes tend to be resistant to change in the face of positive counterstereotypic information primarily because the acceptance of such information may require restructuring of one’s existing set of beliefs. As a result, one tends to reject the deviant information and adhere to prior held beliefs and expectations. (Anderson and Sechler 1986; Anderson et al. 1980; Wilder et al. 1996). For example, assuming that electronics made in Taiwan suffer from negative stereotypes; if consumers are given information about a new Taiwanese electronic product that describes it as very durable and superior to competition, they are likely to dismiss this information as an exception and unrepresentative of the majority of Taiwanese electronics. Then, a question arises as to how can positive counterstereotypic information lead to more favorable country of origin evaluations.

Drawing from research in social psychology, if the behavior of an out-group member matches expectations, then stereotypes about that group are maintained. However, when the behavior does not match expectations, perceived typicality of the out-group member affects the degree to which stereotypes are changed. “If the target individual is perceived to be atypical of others in the group, then his or her actions should not be used to predict the behavior of others, and stereotypes of the out-group should remain unaffected” (Wilder et al. 1996). However, if the out-group member is perceived as typical of his group, negative bias towards that group would most likely be reduced (Brown and Turner 1981).

Furthermore, by presenting subjects counterstereotypic information that was either concentrated or dispersed across a number of targets, Jackson et al. (1993) reported that attitude change is directly affected by the perceived typicality of the disconfirmers.

Applying the idea of typicality to the context of country of origin effects, we may argue that attitudes toward country of origin will only be affected if stereotype inconsistent information is portrayed as typical rather than atypical. Product typicality is defined as “the degree to which an instance is a good example of a category” (Yi and Gray 1996). Typicality has been shown to be the basis of inductive inference, (Osherson et al. 1990). It has also been related to attitude formation (Loken and Ward 1990). Gurhan Canli and Maheswaran (2000) claim that unlike incongruent attribute information that is dispersed across a number of products, counterstereotypic information that is condensed in one product might not offer enough evidence for country of origin evaluation. Thus, we expect that product information will be most influential in changing negative country of origin attitudes when it is perceived as typical of that country (Predicted effects are depicted graphically in Figure 1).

$H_3$: Country of origin evaluations will be more favorable in response to typical than atypical product attribute information.

Moreover, we argue that involvement will moderate the relationship between information typicality and country of origin evaluations. Unlike product evaluation, we contend that the effect of perceived typicality of attribute information on country of origin evaluations will be more pronounced under conditions of low versus high involvement. Under conditions of high involvement, consumers are engaged in more detailed processing of information; they are less likely to process this information in relation to the country of origin (Gurhan-Canli and Maheswaran 2000). Their focus would be on using the information to evaluate the product and thus, their evaluation of country of origin is not
expected to vary as a function of information typicality. On the contrary, low involved consumers focus on the country of origin and are thus expected to process the attribute information in relation to the country of origin.

**H₁**: The effect of information typicality on country of origin evaluations will be more pronounced under conditions of low involvement than high involvement.

**RESEARCH OVERVIEW**

Two experiments were conducted to test the effects of counterstereotypic information under conditions of high and low involvement on foreign product and country of origin evaluations. In the first study, the effect of information diagnosticity and involvement was examined using a 2 (information diagnosticity) x 2 (involvement) factorial between subjects design. The second study examined the effect of product typicality under conditions of high and low involvement using a 2 (information typicality) x 2 (involvement) factorial between subjects design.

**STUDY 1**

**Country**: A pretest was conducted to choose the country of origin used in the experiments. Subjects were asked to evaluate the favorability of electronics manufactured in each of six different countries on a seven point scale (n=48). Taiwan (M=3.09) and China (M=3.72) were identified as the two countries with the most unfavorable associations. Japan (M=6.03) and Germany (M=5.5) on the other hand were the two countries with the most favorable evaluations. In addition to being the country with the most unfavorable associations in the first pretest, Taiwan was also chosen as the target country for the study based on a second pretest where subjects were asked to list their thoughts about electronics manufactured in both Taiwan and China. More negative thoughts were generated about electronic products manufactured in Taiwan.

**Product**: In order to test our hypotheses we needed a product for which evaluation requires some cognitive effort. In addition, it needs to be a product that college students have some familiarity with. The digital camera was chosen as the target product for Study 1. Using an electronics product in this study is appropriate and consistent with previous research (Maheswaran 1994; Gürhan-Canli and Maheswaran 2000). First, the electronics category is one of the most traditionally used product categories in studying country of origin effects. Second, it is a product with which college students have some familiarity and interest. Third, because of the wide variety of specifications and styles, evaluating a digital camera is expected to involve cognitive effort.

**Subjects**: One hundred twenty four undergraduate business students were recruited to participate in the study. They were randomly assigned to conditions in a 2 (information type: diagnostic vs. non diagnostic) X 2 (involvement, high vs. low) between subjects design. There were 66 males and 58 females.

**Procedure**: Subjects were told that a major retailer is considering marketing a new digital camera and that they would read a description of this camera then will be asked to evaluate it. Subjects then read information that conveyed involvement and information type manipulation. That was followed by a questionnaire to measure their evaluation of the digital camera and other dependent measures.

**Independent Variables**

**Involvement**: The first page of the experimental booklet manipulated situational involvement. In the high involvement condition, subjects were told that they were one of only a few groups of subjects to evaluate a new digital camera. They were told that a major local retailer is considering introducing the camera in the U.S. and that their responses were very important (Petty et al. 1983; Sengupta et al. 1997) in the decision of whether to introduce it. They were also told the camera would soon be avail-
FIGURE 1
Hypothetical Pattern of Data for Foreign Product and Country of Origin Evaluation

- Favorable Product Evaluation vs. Non diagnostic attribute information
- Unfavorable Product Evaluation vs. Diagnostic attribute information

- Favorable Country of origin Evaluation vs. Atypical attribute information
- Unfavorable Country of origin Evaluation vs. Typical attribute information

- Favorable Product Evaluation vs. Low Involvement
- Unfavorable Product Evaluation vs. High Involvement

- Favorable Country of origin Evaluation vs. Low Involvement
- Unfavorable Country of origin Evaluation vs. High Involvement

---------------------------------- Diagnostic attribute information
---------------------------------- Typical attribute information
---------------------------------- Non Diagnostic attribute information
---------------------------------- Atypical attribute information
able in their local area. The low involvement subjects were told that a retailer from the Midwest is surveying many samples across the country to decide whether to introduce a new digital camera in the U.S. They were told that their individual opinions were not important as they would be averaged with thousands of respondents across the country and that the camera would only be introduced in the Midwestern States. This technique of involvement manipulation is an adaptation of similar involvement manipulation methods used in prior research (Sengupta et al. 1997). It is also similar to the motivation manipulation technique employed by Chaiken and Maheswaran (1994).

Information Type: After conducting the involvement manipulation, subjects read information that described the “SUNINI 500” as superior to competing brands on three product attributes. In the diagnostic information condition subjects were told that the “SUNINI 500” is superior to competition on three attributes that were considered diagnostic for evaluation purposes. Subjects in the non-diagnostic information condition were told that the “SUNINI 500” is superior to competition on three attributes that were believed to be unimportant for the purpose of making a product judgment. Following Chaiken and Maheswaran (1994), both the important and unimportant attributes were chosen based on a pretest (See Appendix for a list of attributes).

Dependent Variables

After subjects finished reading the material they started completing the dependent measures. First, they expressed their attitudes and evaluation of the “SUNINI 500.” Then, manipulation and confound check questions were administered.

Overall Product Evaluations. Subjects expressed their attitudes towards the “SUNINI 500” on three seven-point scales anchored by “not at all useful” vs. “very useful”, “very unfavorable” vs. “very favorable” and “bad” vs. “good”. These dimensions were derived from the literature particularly from the work of Maheswaran (1994). These items were averaged to form a product evaluation index ($\alpha = .90$).

Attribute Recall. At the end of the experiment, subjects were asked to list all the items they could recall of the product’s description. Number of attributes recalled were scored by two independent raters ($r = .93$). After indicating their recalled attributes and responding to manipulation questions, subjects were debriefed and thanked for their participation in the study.

Manipulation Tests

Checks Concerning the Manipulation of Involvement. To check whether involvement manipulation was successful, subjects rated their involvement level on three scales that asked them to rate their interest, carefulness and effort in reading the information and evaluating the product. Responses to these three items were averaged to form an involvement index ($r = .71$). A two-way ANOVA (Involvement X Information type) was administered on these ratings. Results indicated only a significant main effect of involvement on the average ratings. Subjects in the high involvement condition reported higher ratings than did those in the low involvement condition (involvement ratings: high=5.92, low = 3.84, $F(1,120) = 11.34, p<= .05$). There was no significant main effect of information type or a significant interaction effect of involvement and information type on the involvement ratings.

Checks Concerning the Manipulation of Information Type. Subjects were asked to rate the importance of the attribute information in product evaluation on three seven point scales “very important” and “not all important”, “very relevant” and “not at all relevant”, “useful” and “not at all useful”. These items were averaged to form an attribute diagnosticity index ($r=.73$). A two-way ANOVA (Involvement x information type) was conducted on the attribute importance ratings. Information type had a significant main effect on attribute importance.
ratings. Subjects in the more diagnostic condition reported higher attribute importance ratings than subjects in the non-diagnostic condition (importance ratings: diagnostic = 5.76, non-diagnostic = 4.25, F(1,120) = 45.67). Involvement and involvement x information type interaction had no significant effect on attribute diagnosticity ratings.

**Confound Checks.** In order to check whether the experimental conditions manipulated any differences in the perception of the information congruency, subjects were asked to indicate whether the information was “highly believable” and “not at all believable”, “very different” and “not at all different” from their expectations. These items were presented on two seven point bipolar scales and then averaged to form an information congruency index \( \alpha = .89 \). ANOVA results on the information congruency index indicated no significant effects of involvement or information type.

**RESULTS**

The product evaluation data were analyzed using a 2 (involvement: high vs. low) x 2 (information type: diagnostic vs. non-diagnostic) between-subjects ANOVA. No significant effects were observed for age, gender and national background covariates.

**Product Evaluations.** We expected higher product evaluations for the diagnostic attribute information condition than the non-diagnostic attribute condition (H\(_1\)). Furthermore, we expected that this effect would be stronger under conditions of high involvement than low involvement (H\(_2\)). Consistent with these expectations, ANOVA results revealed a significant main effect of information diagnosticity on product evaluation (F(1,120) = 97.23, p<.001). As predicted in Hypothesis 1, subjects evaluated the diagnostic (vs. non-diagnostic) information more favorably. Additionally, involvement level had a significant main effect on product evaluation (F(1,120) = 37.13, p<.001). The means of the predicted effects are presented in Table 1 and depicted graphically in Figure 2. Furthermore, and consistent with Hypothesis 2, results revealed an interaction effect of involvement level and information type (F(1,120) = 32.16, p<.001).

Further analysis of the interaction between level of involvement and attribute strength using simple effect tests denoted that subjects in the high involvement condition reported more favorable product evaluations when attribute information was diagnostic (M = 5.77) than non-diagnostic (M = 4.37) (F(1,120) = 113.88, p<.001). In contrast, this effect was less pronounced in the low involvement condition (M = 4.71; M = 4.33) for the diagnostic and non-diagnostic conditions respectively (F(1,120) = 9.205, p < .05). These results provide further support to the assumption that highly involved subjects were engaged in more deliberate examination of the information than those in the low involvement condition.

**Attribute Recall.** Results of an ANOVA conducted on the number of product attributes recalled revealed a main effect of involvement on attribute recall (F(1,120) = 13.93, p<.001). Cell means are presented in Table 1. Neither information type nor information type x involvement level had a significant effect on attribute recall. These results provide support for Hypothesis 3.

**DISCUSSION**

Results of Study 1 provided strong support for Hypotheses one, two and three. Diagnostic attribute information led to more favorable evaluation of a foreign made product than did non-diagnostic attribute information. A look at the results of Study 1 summarized in Table 1 indicates that their pattern is consistent with assumptions implied by the elaboration likelihood model. Specifically, highly involved subjects were engaged in more cognitive information processing than less involved ones. Results supported an interaction between the diagnosticity of attribute information and the level of involvement such that the effect of the information diagnosticity on product evaluations was more pronounced under conditions of high
TABLE 1
Means and Standard Deviation by Condition

<table>
<thead>
<tr>
<th>Involvement and information type</th>
<th>Product evaluation</th>
<th>Attribute recall</th>
</tr>
</thead>
<tbody>
<tr>
<td>High, diagnostic</td>
<td>(n = 29) 5.77 (.55)</td>
<td>4.48 (1.29)</td>
</tr>
<tr>
<td>High, non-diagnostic</td>
<td>(n = 29) 4.37 (.36)</td>
<td>4.28 (.99)</td>
</tr>
<tr>
<td>Low, diagnostic</td>
<td>(n = 33) 4.71 (.53)</td>
<td>3.79 (1.17)</td>
</tr>
<tr>
<td>Low, non-diagnostic</td>
<td>(n = 33) 4.33 (.53)</td>
<td>3.48 (.94)</td>
</tr>
</tbody>
</table>

involvement than low involvement.

Moreover, as predicted by Hypothesis 3, the level of involvement affected attribute recall. Under conditions of high involvement, consumers engage in more effortful content based information processing and thus are more likely than less involved consumers to recall attribute information. Conversely, less involved consumers use heuristic based processing and are thus expected to place more emphasis on country of origin and less on attribute information.

Overall, Study 1 results were very encouraging. In Study 2 we examined the conditions under which information type and involvement can yield favorable country of origin evaluations. Specifically, we tested the effect of information typicality under conditions of high and low involvement on country of origin evaluations.

STUDY 2

The second experiment featured a 2 (information type) X 2 (involvement level) between subjects factorial design. It was designed to test the premise that perceived typicality of product information would lead to more favorable country of origin evaluations. This effect was tested under conditions of high vs. low consumer involvement. The procedure was similar to Study 1 except that in Study 2 information typicality rather than diagnosticity was tested and subjects were asked to evaluate the country of origin rather than the product.

Procedure: One hundred seventeen undergraduate business students were recruited to participate in the study. They were randomly assigned to conditions in a 2 (information type: typical vs. atypical) X 2 (involvement, high vs. low) between subjects design. There were 62 males and 56 females. Involvement was manipulated in the same way as in Study 1. Taiwan was again used as the country of origin similar to the first experiment.

Independent Variables

Involvement. The high involvement and low involvement conditions were similar to those in Study 1. Subjects in the high involvement condition were told that they were among a select number of groups evaluating a new line of electronics that will be introduced in their local area and their responses were very important. Subjects in the low involvement condition were told that they were among many groups evaluating a new line of electronic products that will be introduced in the Midwestern U.S and that their responses were not important.

Information Type. In order to manipulate typicality, subjects were presented with one of two versions of stereotype incongruent information (typical vs. atypical). Adapted from Gurhan-Canli and Maheswaran (2000) in the atypical information condition the positive attribute information was condensed in a single product while in the typical condition, attribute information was dispersed on three different products. Attribute information condensed in one product might not offer strong indication of the typicality of products manufactured in a particular country. Conversely, positive attribute information that is dispersed on more than one product may reflect on the typicality of the
Quality of products manufactured in a country (Gurhan-Canli and Maheswaran 2000).

In the atypical information condition, subjects were presented with information that described a digital camera, the “SUNINI 500” as superior to competing brands on six product attributes. Alternatively, in the typical information condition and in order to portray the perception of typicality positive attribute information was dispersed amongst three different electronic products (a digital camera, a DVD player, and an HDTV). Each of these products was described using two positive attributes. In a pretest, subjects were asked to list attributes that they perceived as important in evaluating electronic products. (Refer to the Appendix for a list of attributes). Subjects in the typical information condition were told that a digital camera; the “SUNINI 500” is superior to competition on functionality and design, a DVD player; the D500 is superior to competition on durability and picture and sound quality, an HDTV; the SUNIRA 500 was superior on innovativeness and style. In both conditions, subjects were told that the product or products were manufactured in Taiwan.

**Country of Origin Evaluation.** After reading the stimulus material, subjects rated their evaluation of country of origin on three seven-point bi-polar scales based on Gurhan-Canli and Maheswaran (2000) (very favorable and not at all favorable; positive and negative; good and bad). These items were then averaged to form a country of origin evaluation index (α = .92). After indicating their country of origin evaluations and responding to manipulation questions subjects were debriefed and thanked for their participation in the study.

**Manipulation Tests**

**Checks Concerning the Manipulation of Involvement.** An ANOVA on the involvement index indicated only a main effect of involvement (F(1,113) = 4.85, p<.05). No other effects were significant.

**Checks Concerning the Manipulation of Information Type.** In order to check whether presenting the information in condensed versus dispersed forms successfully manipulated product typicality, participants were asked to rate the degree to which they found the products’
description typical of electronics made in Taiwan on a seven point bipolar scales anchored by “very typical” and “not at all typical”. Subjects in the typical information condition rated the products as significantly more typical (M = 4.47) than subjects in the atypical information condition (M = 3.81) (F(1,113) = 8.14, p<.01). No other effects were significant.

Confounds Checks. Similar to Study 1, there were no significant effects of involvement or type of information on the congruency index.

RESULTS

The country of origin evaluation data were analyzed using a 2 (involvement: high vs. low) X 2 (information type: typical vs. atypical) between-subjects ANOVA. No significant effects were observed for age, gender and national background covariates.

Country of Origin Evaluations. Consistent with our expectations, results revealed a significant information typicality effect on country of origin evaluations. Subjects in the typical information condition reported higher country of origin evaluations than subjects in the atypical information condition (F(1,113) = 26.29, p<.001). There was no significant main effect of involvement on country of origin evaluations. However, a significant interaction effect between involvement and information type was reported (F(1,113) = 20.79, p<.001). The means of the predicted effects are presented in Table 2 and depicted graphically in Figure 3.

Additional analysis of the interaction between level of involvement and attribute strength using simple effect tests denoted that subjects in the low involvement condition reported more favorable country of origin evaluations when attribute information was typical (M = 5.06) than atypical (M = 3.41) (F(1,113) = 51.89, p<.001). This effect was less pronounced for the high involvement subjects (M = 3.71; M = 4.24) for the atypical and typical conditions respectively (F(1,112) = 4.30, p<.05). These results offered support for Hypotheses three and four.

DISCUSSION

In Study 2, we examined the effect of information typicality on the evaluation of country of origin under conditions of high and low involvement. Findings came out in support of our predicted effects suggesting that when the attribute information is perceived as typical, subjects rate the country of origin more favorably. Information typicality provided subjects with more compelling evidence so as to evaluate the country of origin more favorably. However, this effect was more pronounced under conditions of low involvement than under high involvement. Results were consistent with the claim that under conditions of high involvement, consumers do not process the attribute information in relation the country of origin and that their judgments were based on prior held beliefs about the country of origin. On the other hand, because the low involved subjects focus on the country of origin, they were more likely to directly relate the information to their country of origin evaluations.

GENERAL DISCUSSION

The main purpose of this research was to examine the effects of information type and involvement on both foreign product evaluation and country of origin evaluation. We argued that more diagnostic attribute information will lead to more favorable product evaluation. We also argued that this effect will be more pronounced under conditions of high involvement than low involvement. Furthermore, we hypothesized that highly involved consumers will recall more product attribute information than will less involved consumers. In the context of country of origin evaluations, we hypothesized that attribute information that is perceived as typical will lead to more favorable country of origin evaluation than atypical information. Finally, we argued that the effect of information typicality on country of origin evaluation will be more pronounced under conditions of low involvement than high involvement.

Results of two experiments supported our predicted effects. Diagnostic attribute information
was found to lead to more favorable product evaluation. This effect was shown to be more evident for higher involved individuals. Higher involved subjects recalled more attribute information than did subjects in the low involvement condition. Finally, information typicality led to more favorable country of origin evaluations under conditions of low involvement. This effect was not significant under conditions of high involvement. In terms of product recall, it is worth mentioning that the increase in cognitive elaboration under high involvement conditions did lead to greater recall of product attributes. However, it is interesting to note that greater attribute diagnosticity had no effect on attribute recall.

Results also revealed that the type of attribute information is more important to highly involved individuals when evaluating a foreign product. However, type of information becomes more important to less involved subjects when evaluating country of origin. Taken together, results indicate that counterstereotypic information can lead to more favorable product evaluation when it is diagnostic and more favorable country of origin evaluation when this information is perceived as typical.
Country of Origin Effects: The Role of Information... Aboulnasr

From a theoretical point of view, this study contributes to the country of origin research in two important ways. First, it extends prior literature by examining conditions under which counterstereotypic information leads to more favorable product and country of origin evaluations. We tested the effect of information diagnosticity and typicality on evaluations. Second, we discussed the important role involvement plays in the evaluation of foreign products and country of origin. Specifically, we revealed that information type leads to more favorable product evaluations when consumers are highly involved. In contrast, country of origin evaluation varies as a function of information typicality only under conditions of low involvement but not high involvement.

The role of counterstereotypic information in the evaluation of foreign made products and country of origin is also an important managerial issue. Negative evaluations and perceptions based on country of origin stereotyping comprise a substantial market barrier (Schooler, Wildt and Jones, 1987). Marketers could overcome these negative effects through understanding the role of information diagnosticity and typicality and involvement in forming perceptions towards country of origin and foreign products. Marketers of foreign made products can potentially use this research in limiting the negative effects of country of origin stereotypes. Presenting more diagnostic attribute information could lead to more favorable product evaluations. Alternatively, in order to change consumers’ attitude toward country of origin, product information needs to be portrayed as typical of that country.

There are some venues for future research. We only used the electronics category in this study. In order to avoid the bias resulting from the use of a unique product category, the experiments should be replicated using other product categories to offset product category bias. Additionally, it would be interesting to study the effects of a different kind of information manipulations such as the effect of information ambiguity on country of origin and foreign product evaluations. Another route for future research could examine the effect of consumer characteristics. Individual level effects have not been considered in this research such as consumer ethnocentrism and patriotism. Given the current world events, consumer patriotism is increasingly affecting consumers’ evaluation of foreign made products. Patriotism could also affect consumers’ processing of counterstereotypic information in a way that would make it more difficult for diagnostic and typical attribute information to positively affect the evaluations of more patriotic consumers.

REFERENCES


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APPENDIX

Attributes Used to Manipulate Information Diagnosticity

Diagnostic Attributes
- Zoom strength
- Image resolution
- Connectivity with computers and printers

Non-diagnostic Attributes
- Anti-scratch coating
- Self timer
- Red eye reduction
Important Attributes for Evaluation of Electronic Products

Attributes

- Reliability
- Durability
- Functionality
- Picture and/or sound quality
- Style
- Design innovativeness