
Yupin Patara, Chulalongkorn University, Bangkok, Thailand
Kent B Monroe, University of Illinois at Urbana-Champaign and University of Richmond, USA

The rapid growth of less developed countries in international trade has led to concerns by consumers as to the relative quality and efficacy of products. Such concerns have led to questions as to the meaning of a “Made in …” label, especially if various parts or ingredients of the product were made or originated in multiple countries. Can consumers judge the relative quality and value of such products? Consequently, the U. S. Congress passed the Country of Origin Labeling Act in 2002. Given the recent pet food and toothpaste recalls, both because they contained ingredients believed to be harmful to animals and humans, there has been increased calls for more stringent labeling laws. Thus, the question of the effect of ingredient country of origin on consumer behavior has become an important research issue (cf. “Not Made in China”, Business Week, July 30, 2007, 41-43).

Research on the influence of a product’s country of origin has been based on the premise that country of origin as an external cue, similar to brand name and price, has an influence on consumers’ product evaluations and willingness to buy. As shown by previous research (see review by Verleigh and Steenkamp 1999), a product’s country of origin has a strong influence on consumers’ quality perceptions and willingness to buy. Today, a further complication is what we will refer to in this research as country of ingredients origin. That is, the complex nature of global products today provides situations where one product can have mixed origins (i.e. harvested in Thailand and processed on Mexican-owned vessels under a USA brand). For food products, China has rapidly become one of the world’s largest suppliers of a variety of food ingredients including vitamins, fruit juices and other foods.

This research examines the effect of country of ingredients origin labeling on consumers’ product evaluations and how they utilize the information along with brand, price and certification cobrand endorsing the quality when evaluating products’ quality. Using Cue Consistency Theory as a theoretical foundation, we examine how multiple extrinsic cues such as brand, price, and certification cobrand interact with country of ingredients origin to influence consumers’ perceptions of product quality and value and their behavioral intentions.

The two main research questions in the preliminary stage are: (1) How do consumers utilize the ingredient country of origin information along with brand and price when evaluating products’ quality? (2) How do consumers evaluate “Made in …” label if various ingredients of the product were made in multiple countries?

1The Country of Origin Labeling Act (2002) will be mandated in September 2008. All food products will need to specify the country of origin details on the product label.
Conceptualization and Theoretical Framework

The purpose of this present investigation in a series of studies (Appendix) is to examine the influence of the pattern of cues, namely cues consistency such as brand, price, certification cobrand and country of ingredient origins upon the manner in which these cues are used in product evaluations. The situation to be studied is when several extrinsic cues are provided how consumers form their perceptions of product quality, value and willingness to buy. Cue consistency theory (Slovic 1966; Miyazaki, Grewal, and Goodstein 2000) suggests that when a set of cues is consistent each cue will reinforce a subsequent judgment. On the other hand, inconsistent cues may signal contradictory information. Moreover, evaluations with inconsistent cues may depend upon some consistent subset of the inconsistent cues.

When consumers are uncertain about the quality of products, they may use extrinsic cues to judge the quality claims made by the sellers (Monroe 2003). A product’s brand name is a cue for customers representing images that they have formed about the brand and may be used as an indicator of quality (Rao and Monroe 1989).

Similarly, country of origin cues can also influence consumers’ quality perceptions and their confidence in the quality of the product. This reduced uncertainty lowers consumers’ information costs and their perceived risk, thereby enhancing their perceptions of value (Urbany et al. 1997). People form an initial concept of a product on the basis of its country of origin and this concept once formed can influence how information about the product’s specific attributes is interpreted (Hong and Wyer 1990). When a product’s country of origin has a reputation for producing low-quality products, there may be a negative impact on product evaluation (Hong and Kang 2006).

In uncertain information environments, price serves both as a signal of monetary sacrifice and as a signal of product quality (Monroe 2003). The price-quality-value model argues that buyers determine perceived value by mentally trading off or comparing the perceived gains represented in their perceptions of quality or benefits to be received against the perceived loss represented in their perceptions of sacrifice required to acquire the product or service.

If a brand name is capable of signaling quality, then the presence of a certification cobrand (i.e., USDA organic) as an additional signal to endorse and signal the primary brand’s product quality may enhance quality perceptions. This research uses a certification logo as an additional cue cobranded with the primary brand on the product packaging. When a certification cobrand is presented, the certification symbol conveys important information on product attributes and unobservable product quality to consumers. If the certifying agency is perceived to be reputable, then the certificate or label on the product should enhance consumers’ perceptions of the product’s quality.
Method

Four experimental between subjects studies (Appendix) are conducted to examine how multiple extrinsic cues such as brand, price, and certification cobrand interact with country of ingredients origin to influence consumers’ perceptions of product quality and value and their behavioral intentions. The first three studies utilize a national representative sample of adults in the United States. The fourth study examines the hybrid level of country of origin construct and its impact on perceptions of quality, value and willingness to buy.

Hypotheses – Preliminary Stage

Utilizing cues consistency theory as the conceptual basis for the research, we hypothesize that if the extrinsic cues among the brand, price and country of ingredient origin of the product are perceived to signal consistently high quality, then consumers will judge the product to be of higher quality than when one or more of the cues are perceived to signal low quality.

H1: There will be an interaction effect of price and country of ingredient origin on consumers’ perceptions of product quality, such that the effect of either cue will be stronger when paired with a consistent (i.e., High price/ Strong country of ingredient origin) versus inconsistent cue (i.e., High price/ Weak country of ingredient origin or Low price/ Strong country of ingredient origin.)

H2: There will be an interaction effect of brand and country of ingredient origin on consumers’ perceptions of product quality, such that the effect of either cue will be stronger when paired with a consistent (i.e., Highly Familiar Brand/ Strong country of ingredient origin) versus inconsistent cue (i.e., Highly Familiar Brand/ Weak country of ingredient origin or Low Familiar Brand/ Strong country of ingredient origin.)

When a product’s country of origin has a reputation for producing low-quality products, there may be a negative impact on product evaluation (Hong and Kang 2006).

For a High Price Level of a Product

H3a: When the brand is highly familiar cobranded with a reputable certification agency, an increase in proportion of ingredients from a strong country of origin will result in first a decrease and then an increase in the perception of quality.

H3b: When the brand is highly familiar cobranded with a reputable certification agency, an increase in proportion of ingredients from a strong country of origin will result in first a decrease and then an increase in the perception of quality.
Preliminary Results

Study 1 Results -- Manipulation check results indicate that price (Low = 3.67, High = 6.28; F (168) = 3.54, p<.05) and ingredient origin (China = 3.59, USA = 6.62; F (168) = 3.26, p<.05) were manipulated as intended. The hypothesized effect from H1 reveals a significant price x ingredient origin information interaction on perceived quality (F (170) = 6.95, p<.001, see figure 4). We found no mean differences for the inconsistent conditions relative to price and ingredient origin pairing (F <1, NSP). The effect of either cue will be stronger when paired with a consistent (i.e., High price/ Strong country of ingredient origin) versus inconsistent cue (i.e., High price/ Weak country of ingredient origin or Low price/ Strong country of ingredient origin.)

Study 2 Results -- Manipulation check results indicate that brand (Low familiarity = 5.28, High familiarity = 6.28; F (162) = 10.19, p<.001) and ingredient origin (China = 3.50, USA = 6.74; F (162) = 3.08, p<.03) were manipulated as intended. The hypothesized effect from H2 reveals a significant brand x ingredient origin information interaction on perceived quality (F (162) = 5.51, p<.01, see figure 5). We found no mean differences for the inconsistent conditions relative to brand and ingredient origin pairing (F <1, NSP). The effect of either cue will be stronger when paired with a consistent (i.e., Highly familiar brand/ Weak country of ingredient origin) versus inconsistent cue (i.e., High price/ Weak country of ingredient origin or Low price/ Strong country of ingredient origin.)

Study 3 Results -- Manipulation check results indicate that price (Low = 4.53, High = 7.40; F (1,151) = 8.69, p<.01) and ingredient origin (100% China = 3.52, 50% China and 50% USA = 5.22, USA = 6.56; t (150) = 1.88, p=0.03) were manipulated as intended. The hypothesized effect from H3 reveals that when the brand is highly familiar cobranded with a reputable certification agency, an increase in proportion of ingredients from a strong country of origin will result in an increase in the perception of quality (t (150) = 3.83, p<0.001), increase in the perception of value (t (150) = 4.73, p<0.001), and willingness to buy (t (150) = 1.88, p<0.05).

Discussion

Study 1 and 2 provide strong support for the cues consistency hypotheses. The target cue is a stronger predictor of perceived quality when paired with a consistent. Study 3 provide support for the proportion of the hybrid-level of the country of origin hypotheses that when the brand is highly familiar cobranded with a reputable certification agency, an increase in proportion of hybrid-level of the country of origin from a strong country of origin will result in an increase in the perception of quality, value and willingness to buy.
References


## Appendix: Research Design

### Study I – III: USA National Representative Samples

**Study I: -- 2(Brand) x 2(Price) x 2(Ingredient Origin)**

<table>
<thead>
<tr>
<th>Primary Brand Price</th>
<th>Ingredients Made in USA</th>
<th>Ingredients Made in China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cascadian Farm Raisin Bran</td>
<td>Low Price: 25 Subjects</td>
<td>Low Price: 25 Subjects</td>
</tr>
<tr>
<td>Kellogg’s Raisin Bran</td>
<td>High Price: 25 Subjects</td>
<td>High Price: 25 Subjects</td>
</tr>
</tbody>
</table>

Product 1: Raisin Bran Ready to Eat Cereal
- Brand: Cascadian’s Farm, Kellogg’s
- Price: Low, High
- Ingredient Origin: USA, China
- Certification Cobrand constant: USDA Certified Organic Label

**Study II: -- 2(Price) x 2(Certification Cobrand) x 2(Ingredient Origin)**

<table>
<thead>
<tr>
<th>Price Certification Cobrand</th>
<th>Low Price</th>
<th>High Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Certification</td>
<td>USDA Organic</td>
<td>No Certification</td>
</tr>
<tr>
<td>Ingredients Made in USA</td>
<td>25 Subjects</td>
<td>25 Subjects</td>
</tr>
<tr>
<td>Ingredients Made in China</td>
<td>25 Subjects</td>
<td>25 Subjects</td>
</tr>
</tbody>
</table>

Product 2: Personal Care Item
- Price: Low, High
- Certification Cobrand: No Certification Label, USDA Organic
- Ingredient Origin: USA, China
- Primary Brand constant: Familiar Brand (Nivea)
### Study III: -- 2(Price) x 3(Ingredient Origin)

<table>
<thead>
<tr>
<th>Ingredient Origin</th>
<th>Centrum with USDA Certified Organic Label</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ingredients Made in USA</td>
</tr>
<tr>
<td>High</td>
<td>25 Subjects</td>
</tr>
<tr>
<td>Low</td>
<td>25 Subjects</td>
</tr>
</tbody>
</table>

Product 3: Multiple Vitamins  
Price: Low, High  
Ingredient Origin: 100% USA, 100% China, 50% USA 50% China  
Primary Brand constant: Familiar Brand (Centrum)  
Certification Cobrand constant (USDA Organic)

### Study IV (USA Student Samples)

### Study IV: -- 2(Brand Origin) x 2(Manufactured Origin) x 2(Ingredient Origin)

<table>
<thead>
<tr>
<th>Brand Origin</th>
<th>USA Brand Crest</th>
<th>Chinese Brand Darlie</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufactured Origin</td>
<td>USA Factory</td>
<td>China Factory</td>
</tr>
<tr>
<td>Ingredient Origin</td>
<td>25 Subjects</td>
<td>25 Subjects</td>
</tr>
<tr>
<td>Ingredients Made in Germany</td>
<td>25 Subjects</td>
<td>25 Subjects</td>
</tr>
</tbody>
</table>

Product 4: Toothpaste (Price is constant)  
Brand Origin: Crest (USA Brand), Darlie (China Brand)  
Manufactured Origin: USA, China  
Ingredient origin: USA, China
Study I – III: Questionnaires (All three products)

1) Attitude toward Organic Food Products
   a. It is appropriate for producers to develop organic products.
   b. I think that companies should provide more organic products.
   c. I am glad that companies are providing more organic products.
   d. For me, using organic products is very acceptable.

2) Quality Consciousness
   a. In general, I try to buy the best quality available.
   b. I make special efforts to choose the very best quality products.
   c. Getting good quality is very important to me.

3) Manipulation Check of the Story
   a. If you see the USDA organic label on the food product, it means the product contains at least 95% of organic content.
   b. OCIA Certified Organic is one among several agencies certifying organic products.
   c. All organic producers are required to obtain organic certifications.
   d. Only food products can receive a USDA organic label.

4) Perceived Fit of the Certified Cobrand and Primary Brand Using USDA certification logo on Organic Multivitamins items is ____________.
   a. Very logical
   b. Very appropriate
   c. Adds value to the product
   d. Very reasonable
   e. Does make sense

5) Variation of the Quality across Brands in the Product Category
   a. In this product category, I see a lot of variation of product quality across brands.
   b. In general, there is a big difference in quality between brands for this product.
   c. I believe quality varies a lot across brands in this product category.

6) Perceived Quality
   a. This product is safe.
   b. This product appears to have benefits.
   c. The process of making this product is good.
   d. This product appears to be of very good quality.

7) Perceived Value
   a. This offer appears to be a good deal.
   b. At this offer, I think I would be getting good value for the money I spend.
   c. At this price this offer is worth the money.
d. This price is appropriate for the benefits of the product.
e. This offer in the picture is an excellent buy for the money.
f. I would feel good buying the product at the given price.

8) Perceived Price
   a. The price of the product in the picture is very fair.
   b. The price of the product in the picture is reasonable.
   c. The product in the picture is inexpensive.
   d. The price of the product in the picture is acceptable.
   e. The price of the product in the picture is very low.

9) Willingness to Buy
   a. The product would be good for me to use.
   b. I will definitely try this brand.
   c. The possibility that I would consider buying the product is very high.
   d. The likelihood that I would purchase the product at this price is very high.
   e. I will purchase this brand the next time I need to purchase products in this category.
   f. It is very likely that I will buy this brand.

10) Attitude toward Primary Brand
    a. Good
    b. Favorable
    c. Valuable
    d. Pleasant
    e. Positive
    f. Likeable
    g. Beneficial

11) Brand Familiarity – Manipulation Check
    a. I have seen this brand before the survey.
    b. I am knowledgeable about this brand.
    c. I am familiar with this brand.

12) Brand Origin __________

13) Credibility of Certification -- Manipulation Check
    a. Trustworthy
    b. Unbiased
    c. Credible
    d. Reputable
    e. Reliable

14) Country of Origin Evaluation:
    Your general evaluation of PRODUCT from USA is ____________.
    a. Positive
    b. Very favorable
c. Good

d. Reliable

15) *Country of Origin Beliefs:* Please indicate the extent to which each is appropriate to describe products originating in USA.
   a. Made with high standards
   b. Safe to use
   c. Excellent value
   d. Reliable
   e. No substantial risk involved using the product
   f. Confident buying
   g. Be as the manufacturer claims

16) *Ingredient Origin Beliefs:* Please indicate the extent to which each is appropriate to describe products that have ingredients originating in USA.
   a. Made with high standards
   b. Safe to use
   c. Excellent value
   d. Reliable
   e. No substantial risk involved using the product
   f. Confident buying
   g. Be as the manufacturer claims

17) Aesthetic Quality of Product Packaging
   a. The product packaging is likeable.
   b. The product packaging is pleasant.
   c. The product packaging is modern.
   d. The product packaging is positive.
   e. The product packaging is creative.
   f. The product packaging is enhancing the brand image.

18) Gender
   a. Male
   b. Female

19) Age

20) Manipulation Check for Certification Brand

21) Annual Household Income