Submitted: 03/04/2025 - Accepted: 10/05/2025 - Published: 28/06/2025

Semiotics and the Shaping of Country-of-Origin Perceptions: Evidence from an Experimental Study

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DOI: 10.26417/sw08kp50

Abstract

Firms often use semiotic cues, such as colours associated with foreign national identities, to influence consumers' perceptions of a product's country of origin. This study investigates whether incorporating the colours of the Italian flag on olive oil packaging alters American consumers' perceptions of origin and how these perceptions affect downstream evaluations within the Stimulus-Organism-Response (SOR) framework. A quasi-experimental design using fictitious packaging was administered to U.S. consumers (n = 231) via MTurk. Although the stimulus successfully shifted perceived origin toward Italy, perceived origin did not significantly influence perceived quality, involvement, or brand trust. When the true origin (Portugal) was revealed, consumer evaluations did not deteriorate; instead, willingness to pay increased. These results suggest that semiotic cues can shape perceived origin but may not generate deeper evaluative effects unless strongly aligned with category-specific expectations. The study contributes to semiotics and country-of-origin research by demonstrating that symbolic cues may influence perception without affecting internal evaluations, and that origin disclosure does not necessarily elicit negative reactions. Insights into international branding strategies are discussed.

Keywords: consumer perception, country-of-origin, colour, semiotics, Stimulus–Organism–Response (SOR) model, packaging cues, brand trust, revelation effects, international branding strategies

1. **Introduction**

The country where a product is produced plays a fundamental role in consumers' perceptions of it (Bilkey & Nes, 1982). A person's perception of a given country can unintentionally shape their evaluations of a brand (Liu et al., 2005) and their perception of product quality, directly influencing purchasing decisions (Verlegh & Steenkamp, 1999).

This country-of-origin effect may have positive or negative implications for firms, and companies often attempt to either highlight or neutralise their origin depending on the expected impact (Aichner, 2014; Meneses & Santos, 2019; Witek-Hajduk & Grudecka, 2023). One strategy to influence origin perceptions involves using semiotic elements, such as a country's flag colours, to create a positive origin effect on labels and packaging. According to Pierce's semiotics, colour acts as a signal that shapes interpretation (Kauppinen-Räisänen & Jauffret, 2018) and may therefore lead consumers to associate a product with a specific country. Such strategies, however, may have consequences if consumers later discover the products' true origin. In these cases, feelings of deception may arise, potentially altering attitudes towards the brand.

This study examines colours as a strategy to influence perceived country of origin and investigates their downstream effects. To do so, we draw on the Stimulus-Organism-Response (SOR) framework, in which semiotic cues on packaging act as stimuli that may influence consumer organism variables (perceived quality, involvement with the product, and brand trust), which in turn shape response, namely intention to purchase, perceived price, and the price that consumers are willing to pay.

Existing studies often rely on real brands, meaning consumers may already hold prior opinions or associations that can bias their responses. This study addresses that gap by using a fictitious brand, thereby isolating the effects of secondary associations rather than pre-existing beliefs.

The findings have managerial relevance, as firms report considering country-of-origin effects in their internalisation decisions, even unintentionally (Samiee et al., 2024).

This study seeks to answer the following research questions:

Can semiotic cues such as flag colours influence perceived origin?

How does the perceived country of origin impact consumer attitudes regarding quality, involvement, trust, purchase intention, perceived price, and willingness to pay?

How does revealing the true country of origin affect consumers' response?

The remainder of this paper is structured as follows. Section 2 reviews the literature on country-of-origin effects, semiotics, and the SOR model. Section 3 presents the

methodology and experimental design. Section 4 reports the results. Section 5 discusses the findings and their implications. Section 6 concludes the study.

2. Literature Review

2.1 Country of origin effect

When consumers intend to buy a product and are unfamiliar with it, they often rely on secondary cues, such as the country of origin, to guide their evaluations (Lee & Lee, 2009). Country of origin functions as an extrinsic signal of quality (Bilkey & Nes, 1982; Verlegh & Steenkamp, 1999), influencing perceptions of reliability, taste, and overall product performance (Liu et al., 2005; Verlegh & Steenkamp, 1999). As a result, consumers frequently associate positive stereotypes with certain countries, for example, German engineering or Swiss precision (Aichner, 2014), or companies in the food sector may benefit from a positive effect of country of origin, as in the case of Italy (Aichner, 2014).

Brands may strategically use foreign references, such as foreign names, symbols, phonetic cues, or specific colour combinations, to evoke desirable national associations and transfer perceived country attributes onto a product, even if it is not produced in that specific country (Melnyk et al., 2012). Packaging (including labelling) plays a central role in this process, as its semiotic elements influence interpretation. From Peircean semiotics, colours act as iconic signals capable of conveying meaning directly (Kauppinen-Räisänen & Jauffret, 2018). For example, IKEA's yellow and blue immediately suggest Swedish origin. In this sense, using colours associated with a foreign flag may help a firm neutralise a negative country-of-origin effect or capitalise on a positive one (Aichner, 2014). *Desperados* is a commonly cited example: despite being French, its use of Mexican flag colours led consumers to associate the brand with Mexico, improving perceived authenticity and quality (Aichner et al., 2017).

Recent research shows that country-of-origin effects vary substantially across product categories, consumer involvement, familiarity, and cue type.

Meta-analyses indicate that country of origin is evolving and may be less influential in certain contexts (Samiee et al., 2024), underscoring the importance of understanding how specific semiotic stimuli, such as flag colours, function as secondary associations.

2.2 SOR Model

The Stimuli-Organism Response) The model (Mehrabian & Russell, 1974) explains consumers' behaviour as a sequence in which an external stimulus influences an internal organism, leading to a behavioural response (Sugiarto et al., 2022). This framework has been widely applied to understand how communication cues affect consumers' judgment and intentions (Sultan et al., 2021; Tian et al., 2022).

In the context of this study, semiotic cues, more precisely the colours of a national flag, function as the stimulus. By referencing Italy's flag colours (green, white, and red), the packaging may prompt consumers to interpret the product as Italian. This perceived origin acts as the starting point for a chain of effects within the SOR structure.

2.2.1 Stimulus: Perceived Origin

Based on the literature on country of origin and semiotics, perceiving a product as originating from a country with a positive reputation may enhance perceptions of quality, product involvement, and brand trust. Accordingly, the following hypotheses are developed:

Hypothesis 1: Perceived origin positively affects perceived quality.

Hypothesis 2: Perceived origin positively affects involvement with the product.

Hypothesis 3: Perceived origin positively affects brand trust.

2.2.2 Organism: Perceived Quality, Involvement, and Brand Trust

The organism component reflects consumers' internal evaluations and emotional or cognitive states. Perceived quality has been shown to influence purchase intention and price perception, with higher quality leading to higher expected prices (Ordonez, 1998; Washburn & Plank, 2002). Involvement relates to personal relevance of the product, potentially increasing consumers' sensitivity to quality cues (Almeida & Düsenberg, 2014). Brand trust affects willingness to buy and to pay a premium, partly due to the "halo effect", where positive impressions transfer across attributes (Chaudhuri & Holbrook, 2001; Nicolau et al., 2020). Based on this, the following hypotheses are formulated:

- Hypothesis 4a: Perceived quality positively affects willingness to buy.
- Hypothesis 4b: Perceived quality positively affects willingness to pay.
- Hypothesis 4c: Perceived quality positively affects perceived price.
- Hypothesis 5a: Involvement positively affects willingness to buy.
- Hypothesis 5b: Involvement positively affects willingness to pay.
- Hypothesis 5c: Involvement positively affects perceived price.
- Hypothesis 5d: Involvement positively affects perceived quality.
- Hypothesis 6a: Brand trust positively affects willingness to buy.
- Hypothesis 6b: Brand trust positively affects willingness to pay.
- Hypothesis 6c: Brand trust positively affects perceived price.
- Hypothesis 6d: Brand trust positively affects perceived quality.

2.2.3 Response: Behavioural Intention

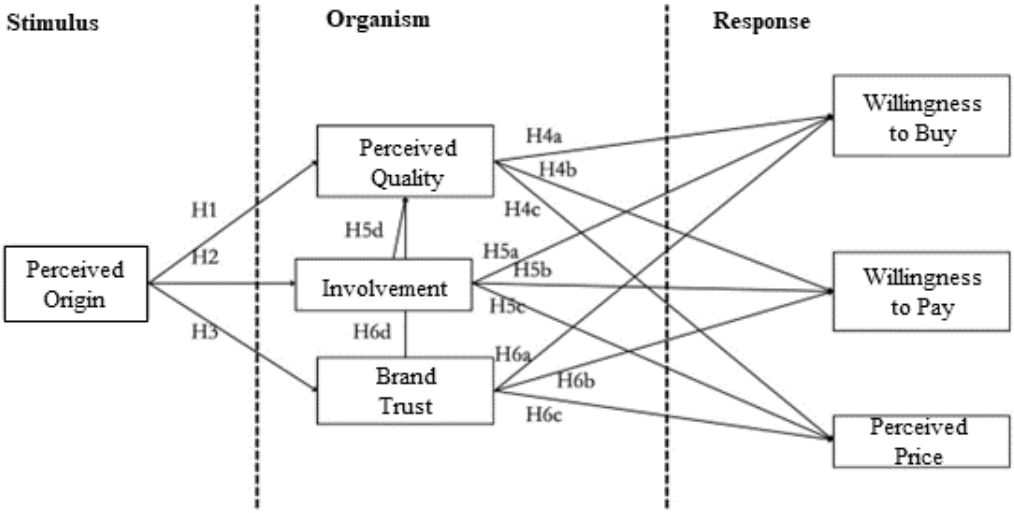
The response component of the SOR model covers observable behaviour intentions: willingness to buy, perceived price, and willingness to pay. These outcomes are

indirectly influenced by the stimulus (perceived origin) through the organism (quality, involvement, and trust), thereby closing the SOR sequence.

Once the hypotheses have been established, the SOR model can be presented, adjusted to the study, in Figure 1.

Figure 1

Representative Scheme of the Model



2.3 Implications of revealing the real country of origin

Even when semiotic cues successfully create an association with a positive country of origin, revealing the actual country of origin may change consumer attitudes. Studies such as Aichner et al. (2017) show that discovering that Häagen-Dazs is not Scandinavian led German consumers to report lower purchase intention and willingness to pay, due to perceived inconsistency or disappointment.

Given these findings, this study also examines how consumers' evaluations shift when they learn that the olive oil is, in fact, Portuguese after initially perceiving it as Italian. Accordingly, the following hypotheses are formulated:

Hypothesis 7a: Revealing the real country of origin negatively affects the willingness to buy.

Hypothesis 7b: Revealing the real country of origin negatively affects the willingness to pay.

Hypothesis 7c: Revealing the real country of origin negatively affects perceived price.

Hypothesis 7d: Revealing the real country of origin negatively affects the perceived quality.

3. **Empirical Study**

This section outlines the empirical study's design, data collection procedures, and analytical techniques, with the aim of testing the previously identified hypotheses.

3.1 Made in Italy

Products labelled as “Made in Italy” often convey a “premium product”, benefiting from the country-of-origin effect associated with both the country’s market image and the brand’s identity (Cappelli et al., 2019; Ninni et al., 2006). This reputation is linked to Italy’s heritage, creativity, and collective identity, which reinforces consumer perceptions of higher quality. Consequently, Italian origin is associated with favourable attitudes and greater willingness to pay (Bonaiuto et al., 2021). Such effects are also observed in specific food categories, including Italian olive oil, which holds a strong international reputation (Carbone et al., 2018).

Given this association, the present study used the colours of the Italian flag as the semiotic stimulus for this study. Olive oil was selected as the product category to test whether perceiving the product as Italian would influence consumers' quality evaluations.

3.2 Quasi-experimental methodology

A quasi-experimental between-subjects design was employed to test whether semiotic cues based on the colours of the Italian flag influence perceived country of origin and subsequent consumer evaluations. This approach is appropriate for establishing causal inferences in consumer research (Vargas et al., 2017) while preserving ecological validity in stimulus exposure. Participants were randomly assigned to one of two conditions upon the questionnaire on Amazon Mechanical Turk (MTurk): a stimulus group exposed to an olive bottle with a logo incorporating the colours green, white, and red (Figure 2), and a control group presented with the same bottle featuring a neutral olive-green label (Figure 3).

The visual stimulus was explicitly developed for this study and designed to resemble realistic packaging while ensuring the fictional brand did not activate prior brand knowledge or primary associations. The colour combination used in the stimulus condition was selected to ensure that the packaging conveyed a strong association with Italy, in line with guidelines for experimental stimulus construction (Geuens & De Pelsmacker, 2017), and consistent with the Peircean semiotics, which conceptualises colours as iconic signs capable of shaping interpretation.

To ensure that the stimulus produced the intended perceptual effect, a pilot test was conducted with nine participants (aged 22-40). All respondents in the stimulus

condition identified the product as Italian, confirming that the semiotic manipulation was successful.

Figure 2

Olive Oil Bottle (Stimulus Group)

Figure 3

Olive Oil Bottle (Control Group)

3.3 Questionnaire

The questionnaire followed the recommended structure for experimental advertising by Geuens and De Pelsmacker (2017), after a brief introduction explaining consumer behaviour research. After a brief introduction explaining the general purpose of the study and anonymised data handling, respondents were randomly assigned to one of the two groups (a bottle with a logo with Italian colours vs a bottle with a logo with neutral colours). Both groups evaluated three response variables. willingness to buy, willingness to pay, and perceived price. Willingness to pay was measured using an open-ended question ("How much would you be willing to pay as a maximum price for this product?"), while willingness to buy and perceived price were assessed through established Likert-type scales previously validated in the literature.

Participants then evaluated the organism variables in the SOR model: perceived quality, involvement with the product, and brand trust, using multi-item scales adapted from prior research (Berkowitz & Walton, 1980; Erdem & Swait, 2004; Laurent & Kapferer, 1985; MacKenzie et al., 1986; Yoo et al., 2000) (Table 1). All scale anchors were adjusted to align with the olive oil context.

Table 1

Model Measurement Scales

Willing to buy – WTB	How likely would you be to seek out this product? How likely would you be to buy this product?	**MacKenzie et al., 1986; Sierra et al., 2009; Zúñiga, 2016**
Perceived Price – P. Price	I think the price of this product is: I think this is a high-priced product.	**Berkowitz & Walton, 1980**
Perceived Quality - P. Quality	I believe this is a high-quality olive oil. I believe this olive oil is probably very tasty. I think this product is probably very reliable. This seems like a good quality olive oil. This seems like very poor-quality olive oil.	**Yoo et al., 2000**
Involvement – Involv.	I have a strong interest in this product. This product is very important to me. For me, this product does not matter.	**Laurent & Kapferer, 1985)**
Brand Trust – Brand T.	The brand seems to deliver what it promises. The brand's claims seem credible. The brand seems to have a trustworthy label. The brand does not seem to pretend to be something it is not.	**Erdem & Swait, 2004**

To assess whether the semiotic stimulus successfully influenced perceived origin, four open-ended questions asked respondents what the label suggested about the product, its quality, and its origin, including a direct question about where they

believed the product was produced. Based on this answer, perceived origin was coded as Italian (1) or not Italian (0).

After completing these evaluations, all respondents were informed that the product was actually produced in Portugal. They were then asked to re-evaluate their willingness to buy, willingness to pay, perceived price, and perceived quality, allowing the analysis of changes following the revelation of the origin.

3.4 Sample and Data Collection

Participants were adults residing in the United States recruited via MTurk. Consistent with MTurk best practices, responses were screened for quality (Geuens & De Pelsmacker, 2017). The following inclusion criteria were applied: US residence, minimum 95% approval rating, and one attention-check question; exclusion criteria included: repeated or suspicious entries, missing responses to the perceived origin question, and unrealistic willingness to pay (e.g., over USD 200).

The final sample consisted of 231 responses (119 in the stimulus group; 112 in the control group), with ages ranging from 21 to 62 years (M = 34.10 years). The sample was 56% male and 44% female.

Given the number of latent variables and structural paths, a sample size of 200 or more meets the recommended guidelines for PLS-SEM statistical power (Hair et al., 2019), ensuring robustness for the intended analyses.

3.5 Ethical Considerations

This study involved minimal-risk research with adult participants. It therefore did not require formal approval from an institutional ethics committee under the regulations in force at the University of Porto. The study followed all ethical principles for research with human subjects, including voluntary participation, informed consent, anonymity, and confidentiality.

All participants were adults residing in the United States and were recruited through Amazon Mechanical Turk (MTurk). Before beginning the questionnaire, participants were informed about the study's purpose, the anonymous and confidential handling of their responses, and their right to withdraw at any time without consequences. No identifying personal data was collected, and all responses were stored and analysed in compliance with the General Data Protection Regulation (GDPR).

Because the study relied on fictitious products and presented no foreseeable psychological, social, or physical risks, no harmful deception was employed. The disclosure of the true country of origin at the end of the questionnaire formed part of the experimental design and did not expose participants to discomfort or risk. All participants explicitly provided informed consent prior to participation.

3.6 Data Analysis

Data analysis proceeds in three steps: 1) measurement models validation; 2) estimation of the structural model, and 3) hypothesis testing. Steps 1 and 2 were performed in SmartPLS and Step 3 in SPSS.

3.6.1 Measurement Model

Analyses were performed in SmartPLS using the guidelines outlined by Hair et al. (2019). Items with low outer loadings were removed, thereby improving convergent and discriminant validity. Convergent validity was established through: AVE ≥0.5 and Composite Reliability ≥ 0.7. Discriminant validity was confirmed using the Fornell-Larcker criterion.

3.6.2 Structural Model

A *Bootstrapping* procedure with 5,000 samples was performed, and a significance level of 0.05 was used to test the structural paths. This allowed the estimation of the significance of all hypothesised relationships and the evaluation of whether the organism and response variables, in accordance with the SOR model.

3.6.3 Reveal Analysis

To assess the effect of revealing the product's true origin (Portugal), one-sided paired-samples t-tests were conducted for respondents who initially perceived the olive oil as Italian. This method tested whether perceived quality, perceived price, willingness to buy, and willingness to pay decreased after the revelation, consistent with prior research on the effects of origin disclosure.

4. Results

After data collection, responses were exported and organised for analysis. Open-ended comments about the label generally indicated that respondents perceived the product as attractive, high-quality, and credible, often associating it with tradition and expertise.

Consistent with the recommendations for online data collection via MTurk, several responses were excluded (Geuens & De Pelsmacker, 2017).

4.1 Manipulation Check

The manipulation aimed to verify whether the use of Italian flag colours successfully influenced perceived origin. Among participants in the stimulus group 41% indicated Italy as the product origin, while 15% did so in the control group. A 2×2 χ^2 test confirmed that this difference is statistically significant, $\chi^2(1) = 17.86$, $p < .001$, Cramér's V = 0.28, confirming that the flag-colour cue effectively shifted perceived origin toward Italy, in line with Pierce's semiotic framework.

4.2 Measurement model

The measurement model was assessed in SmartPLS. Initial analyses revealed issues with validity for some constructs and items. 3, P.Quality1 and P.Quality5 presented

low loadings, so it was decided to eliminate them from the model. After that, all outer loading values were above 0.708, the composite reliability values were greater than 0.70, and the average variance extracted was greater than 0.50 for all variables, giving convergent validity to the model (Table 2). There are no problems with discriminant validity, either (Table 3).

Table 2

Reliability and Validity of Constructs – Validated Model

	Brand T	Involv.	P.Price	P.Quality	WTB
rho_c	0.795	0.798	0.772	0.804	0.754
AVE	0.566	0.664	0.630	0.579	0.606

Table 3

Fornell-Larcker Criterion – Validated Model

	Brand T	Involv.	P.Price	P.Quality	WTB
Brand T	**0.752**				
Involv	0.662	**0.815**			
P.Price	0.519	0.499	**0.794**		
P.Quality	0.704	0.713	0.613	**0.761**	
WTB	0.573	0.557	0.506	0.694	**0.779**

The scales were validated after excluding the same items for the second part of the study (effect of revealing the country of origin). All variables exhibited composite reliabilities above 0.70 and AVEs above 0.50, indicating convergent validity of the scales (see Table 4). Fornell-Lacker's discriminant validity criterion was assured, as seen in Table 5.

Table 4

Reliability and Validity of Constructs – Part II of the Study

	P.Price II	P.Quality II	WTB II
rho_c	0,785	0,792	0,727
AVE	0,647	0,561	0,582

Table 5

Fornell - Larcker Criterion – Part II of the Study

	P.Price II	P.Quality II	WTB II
P.Price II	**0.804**		
P.Quality II	0.649	**0.749**	
WTB II	0.556	0.696	**0.763**

4.3 Structural Model

Bootstrapping with 5,000 subsamples was conducted to evaluate the significance of the hypothesised paths. Table 6 presents standardised coefficients, bootstrap standard errors, and 95% confidence intervals.

Table 6

Structural Model

Relations	f^2	β	STDEV	t-statistic	p-value	95% CI lower	95% CI upper
P.Origin -> Brand T	0.001	-0.065	0.165	0.396	0.692	-0.388	0.258
P.Origin -> Invol.	0.008	-0.248	0.155	1,595	0.111	-0.552	0.056
P.Origin -> P. Quality	0.011	-0.183	0.117	1,558	0.119	-0.412	0.046
P.Quality-> WTB	0.228	0.536	0.098	5,473	<0.05	0.344	0.728
P.Quality -> WTP	0.002	-0.069	0.141	0.487	0.626	-0.345	0.207
P.Quality -> P.Price	0.134	0.454	0.107	4.23	<0.05	0.244	0.664
Involv. -> WTB	0.006	0.082	0.101	0.806	0.42	-0.116	0.280
Involv. -> WTP	0.000	-0.094	0.092	1,014	0.311	-0.274	0.086
Involv. -> P.Price	0.004	0.079	0.091	0.863	0.388	-0.099	0.257
Involv. -> P.Quality	0.264	0.43	0.063	6,788	<0.05	0.307	0.553
Brand T -> WTB	0.018	0.142	0.088	1,617	0.106	-0.030	0.314
Brand T -> WTP	0.004	-0.026	0.143	0.183	0.855	-0.306	0.254
Brand T -> P.Price	0.017	0.147	0.093	1,585	0.113	-0.035	0.329
Brand T -> P.Quality	0.249	0.417	0.072	5,797	<0.05	0.276	0.558

Note: WTP – Willingness to Pay, WTB – Willingness to Buy, Involv – Involvement; P. Origin – Perceived Origin; P. Qualty – Perceived Quality; P. Price – Perceived Price, Brand T – Brand Trust

The analysis revealed statistically significant and non-significant relationships across the model.

Perceived Origin did not significantly influence Brand Trust (H1), Involvement (H2), nor Perceived Quality (H3), as all confidence intervals include zero. This indicates that although the semiotic cue changed perceived origin, it did not translate into higher consumer evaluations.

In turn, Perceived Quality significantly influences Willingness to Buy (H4a) [β= 0.536, 95% CI [0.344; 0.728]], with a medium effet size [f^2 = 0.23], Perceived Price (H4c) [β = 0.454, CI [0.244; 0.664]], with a small to medium effect size [f^2 = 0.13], but not Willingness to Buy (H4c) [CI includes zero].

Involvement significantly affected Perceived Quality (H5d) [β = 0.430, 95% CI [0.307; 0.553]], with a medium to large effect size [f^2 = 0.26].

Brand Trust also significantly influences Perceived Quality (H6d) [β = 0.417, 95% CI [0.276; 0.558]], with a medium effect size [f^2 = 0.25], consistent with the halo effect reported in previous research.

No significant effects emerged for any predictors on Willingness to Pay.

These results confirm that the organism variables, especially Perceived Quality, drive consumers' responses, whereas perceived origin does not produce downstream effects.

4.3.2 R2 of Endogenous constructs

Table 7

Endogenous R^2

Endogenous Construct	R^2
Perceived Quality	0.61
Willingness to Buy	0.50
Perceived Price	0.39
Willingness to Pay	0.03
Brand Trust	0.00
Involvement	0.01

The R2 values, presented in Table 7, reinforce the strong model capacity to explain Perceived Quality and Willingness to Buy, and the negligible capacity to explain Brand Trust and Involvement.

4.4 Hypothesis Testing: Country of origin revelation (H7)

Paired one-sided t-tests were conducted among participants who initially judged the product to be Italian. These tests examined whether perceived quality, perceived price, willingness to buy, and willingness to pay decrease after revealing the true origin (Portugal). As shown in Table 8, Willingness to Pay increased significantly T = -2.681, p = 0.006= with a mean difference of +5.14. This result runs contrary to prior studies suggesting disappointment after origin revelation.

Perceived Quality, Perceived Price, and Willingness to Buy did not change significantly after revelation.

Table 11

Paired Samples T-Test

	Paired Differences					t	df	Significance
				95% Confidence Intervals				P Unilateral
	Mean	STDEV	SEM	Lower	Upper			
WTP II – WTP	5.144	11.671	1.919	-9.035	-1.252	-2.681	36	0.006
WTP II – WTP	0.04	0.573	0.094	-0.152	0.231	0.42	36	0.338
P.QualityII – P.Quality	0.071	0.353	0.058	-0.189	0.047	-1.224	36	0.114
WTB II – WTB	0.093	0.547	0.09	-0.09	0.275	1.03	36	0.155

These findings suggest that consumers did not react negatively to the disclosure of Portuguese origin; in fact, they appeared willing to pay more. This may indicate that U.S. consumers hold favourable associations with Portuguese olive oil, or that Italian origin does not carry the expected positive quality halo in this context.

5. Discussion

The purpose of this study was to examine whether the colours of the Italian flag could influence consumers' perceptions of an olive oil product and how such perceptions translate into evaluative and behavioural responses within the SOR framework. The findings demonstrate a clear distinction between perceptual and evaluative effects.

Although the semiotic cue effectively shifted perceived origin toward Italy, this perceptual change did not produce downstream effects on perceived quality, involvement, or brand trust. This suggests that recognising a symbolic cue associated with a country does not necessarily trigger the set of positive associations traditionally attributed to that country in country-of-origin research.

This result is consistent with more recent evidence that country-of-origin cues have become weaker and more context-dependent in shaping quality judgements, particularly in food categories where intrinsic cues or personal experience tend to dominate evaluations (Samiee et al., 2024).

Despite the absence of country-of-origin effects at the organism level, several relationships postulated by the SOR model were supported. Perceived quality has a strong positive effect on willingness to buy and on perceived price, confirming its central role as an internal evaluation closely tied to behaviour. This aligns with prior studies showing that quality is a robust determinant of consumer purchasing and price expectation (Washburn & Plank, 2002). Likewise, involvement and brand trust both exerted significant positive effects on perceived quality, further supporting the notion that consumers rely heavily on cognitive and affective evaluations when forming judgements about fictitious products. These results are consistent with the hypothesis that, in the absence of strong categor-linked stereotypes, consumers anchor their evaluations more on subjective relevance and perceived brand credibility.

The second objective of this study was to examine how consumers react when the true origin of the product is revealed. Contrary to prior findings, such as those of Aichner et al. (2017), who observed declines in purchase intention and willingness to pay after disclosing the actual origin, participants in this study did not penalise the product. On the contrary, willingness to pay increased after learning that the product was produced in Portugal, while perceived quality, perceived price, and willingness to buy remained stable.

These findings diverge from the negative-disconfirmation pattern observed in earlier studies in country-of-origin studies and suggest several plausible interpretations. First, the positive global reputation of Portuguese olive oil may be increasingly recognised by American consumers. Recent market trends show a growing appreciation for Mediterranean olive oil beyond Italy, with Portugal often being associated with authenticity and high-quality artisanal products. Given that the semiotic stimulus initially suggested Italy (a country with a strong but also highly

stereotyped association with olive oil. It is possible that revealing Portugal as the true origin activated favourable beliefs, reducing any sense of deception and even enhancing perceived value. Second, the stereotypical "Italian quality halo", often assumed to dominate in this product category, may be weakening or not universally generalised across all consumer segments. Third, the finding may reflect a shift in how country-of-origin information functions in saturated markets: rather than relying heavily on stereotypical country associations, consumers may privilege product-related perceptions developed through exposure, as suggested by the model's high explanatory power for perceived quality. Finally, because the product was fictitious, participants were not anchored to expectations typically triggered by well-known Italian labels; therefore, the revelation lacked the emotional "violation expectation" component associated with deception. This may partly explain why evaluations remained stable (or even improved) after disclosure.

This divergence from Aichner et al. (2017) may also be partly cultural. Their study used a German sample, which tends to place higher emphasis on geographical authenticity for premium food categories. In contrast, American consumers may value variety and novelty, and may not assume that Italian origin guarantees superior quality over Portuguese origin.

The absence of negative reactions after the reveal reinforces the idea that country-of-origin effects are not universal and depend substantially on the cultural context and the product category (Oduro et al., 2024)

Overall, the findings suggest that semiotic cues can successfully influence perceived origin. However, this influence may remain surface-level, extending only to deeper cognitive or affective evaluations when the country cue is strongly aligned with the product category or socially salient.

The results also highlight that disclosing an unexpected origin does not uniformly lead to negative outcomes, and may, in some contexts, enhance perceived value, as observed for Portuguese olive oil in this study. The divergence from traditional country-of-origin effects is particularly evident in markets characterised by globalised supply chains, increasing product hybridity, and shifting consumer expectations.

Theoretical contributions

This study contributes to country-of-origin and semiotics research in several ways. First, it provides empirical evidence that semiotic cues, such as flag colours, can successfully shape perceived origin, thereby validating their role as iconic signs in Peircean semiotics. Second, by integrating semiotics into the SOR framework, the study demonstrates that country-of-origin cues may operate at the stimulus level without necessarily influencing organism-level evaluations. This helps clarify inconsistent findings in the literature, suggesting that country-of-origin effects may be conditional on the degree to which consumers associate the country with relevant

product attributes. Third, the study advances understanding of the country-of-origin revelation effect by showing that disclosure does not always elicit negative reactions, suggesting that positive shifts may occur when the actual origin is perceived as credible or attractive. Thus, firms need to reassess whether country-of-origin camouflage strategies are beneficial, given that transparency may, in some cases, support rather than harm consumer attitudes.

Practical Implications

The findings offer relevant insights for firms considering using foreign symbolic cues to influence consumer perceptions. Although colour-based country-of-origin camouflage can alter perceived origin, its downstream evaluative effects are not guaranteed, and reliance on symbolic cues alone may not improve consumer attitudes. Moreover, firms should not assume that revealing the true origin will harm evaluations. In categories where multiple countries enjoy reputational strength (such as olive oil), being transparent about origin may be more beneficial than mimicking the stereotypical strong-country image. For international marketers, these results highlight the importance of understanding not only country-of-origin stereotypes but also the specific consumer perceptions of each market.

6. Conclusion

This study set out to examine whether semiotic cues, specifically the colours of the Italian flag, can shape the perceived country of origin of an olive oil product, and how such perceptions influence downstream consumer responses within the SOR framework. Consistent with Peircean semiotics, the stimulus successfully shifted perceived origin toward Italy, demonstrating that colour-based cues can operate as effective iconic signs.

However, this influence remains perceptual rather than evaluative: perceived origin did not significantly affect perceived quality, involvement, or brand trust.

These findings align with recent research suggesting that country-of-origin cues have become less influential in guiding quality judgements, particularly in food categories where consumers rely more on intrinsic or experiential attributes.

Although the stimulus did not affect the organism variables, several internal SOR relationships were confirmed. Perceived quality emerged as the primary driver of willingness to buy, and perceived price, as well as involvement and brand trust, significantly shaped perceived quality. These results reinforce the centrality of organism-level evaluations in consumer decision-making and show that symbolic country cues may have limited power unless they are strongly aligned with category-specific expectations.

The second objective of this study concerns consumer reactions to the revelation of the product's true origin. Contrary to prior studies reporting negative effects following disclosure, revealing that the product was Portuguese did not worsen

evaluations; instead, willingness to pay increased. This suggests that U.S. consumers may hold favourable associations with Portuguese olive oil, or that Italian origin no longer carries the unquestioned superiority often assumed in earlier country-of-origin research. The absence of negative reactions supports the view that country-of-origin effects are context- and culture-dependent and may be weaker in markets where consumers value diversity, novelty, or authenticity beyond stereotypical expectations.

This study contributes to country of origin literature and semiotics by: demonstrating that semiotic cues can modify perceived origin withou necessarily influencnig consumer evaluations; integrating semiotics within the SOR model to clarify when country-of-oring effects operate at the simulus level but not at the organism or response levels; showing that country of origin revelation does not uniformly lead to negative reactions and may, in some cases enhance perceived value.

From a managerial perspective, the findings caution firms against assuming that colour-based camouflage will improve consumer attitudes. While such cues may alter perceived origin, they do not guarantee positive evaluative consequences. At the same time, revealing the true origin may not be detrimental and can even increase perceived value when the actual origin carries positive associations (as appears to be the case for Portuguese olive oil). Firms should therefore rely on careful market-specific research before deciding whether to emphasise or mask origin in their branding strategies.

The study has several limitations. It focuses on a single product category and a U.S. sample, which may limit generalizability. The use of a fictitious brand, while methodologically advantageous, may not fully capture the complexity of brand-origin interactions in real markets. Future research could extend this approach to different categories and cultural contexts, or combine quantitative and qualitative methods to deepen understanding of how consumers interpret country-of-origin cues and semiotic elements.

Recent evidence also suggests that traditional country-of-origin cues may be losing influence in consumer decision-making. Large-scale reviews show increasing inconsistencies and a weakening of COO effects across product categories and cultural contexts (Samiee et al., 2024). At the same time, consumers are placing growing weight on sustainability-related forms of "origin", such as environmental responsibility, ethical sourcing, and social impact. Recent industry and academic studies indicate that sustainability has become a baseline expectation in many markets (Reichheld et al., 2023), with consumers willing to pay meaningful premiums for sustainably produced goods. These sustainability cues can also operate as semiotic signals, conveyed through colours, symbols, certifications, or packaging narratives (Huang et al., 2025), suggesting a promising direction for future research. Understanding how consumers interpret ethical or environmental "origin" through

semiotic elements may be increasingly relevant as these cues gain prominence relative to classical COO effects.

Overall, this study highlights that country-of-origin effects are evolving and that semiotic strategies may not uniformly produce intended outcomes. As global markets shift and consumer expectations become more nuanced, continued research is essential to understand how country cues, semiotic signals, and product evaluations interact to shape consumer behaviour.

References

[1] Aichner, T. (2014). Country-of-origin marketing: A list of typical strategies with examples. Journal of Brand Management, 21(1), 81–93.

[2] Aichner, T., Forza, C., & Trentin, A. (2017). The country-of-origin lie: impact of foreign branding on customers' willingness to buy and willingness to pay when the product's actual origin is disclosed. The International Review of Retail, Distribution and Consumer Research, 27(1), 43–60.

[3] Almeida, V. M. C. d., & Düsenberg, N. B. (2014). Consumer Involvement with Products: Comparison of the PII and NIP Scales in the Brazilian Context. Revista Brasileira de Gestão de Negócios, 16, 75–95.

[4] Berkowitz, E. N., & Walton, J. R. (1980). Contextual influences on consumer price responses: an experimental analysis. Journal of Marketing Research, 17(3), 349–358.

[5] Bilkey, W. J., & Nes, E. (1982). Country-of-origin effects on product evaluations. Journal of International Business Studies, 13(1), 89–100.

[6] Bonaiuto, F., De Dominicis, S., Ganucci Cancellieri, U., Crano, W. D., Ma, J., & Bonaiuto, M. (2021). Italian food? Sounds good! Made in Italy and Italian sounding effects on food products' assessment by consumers. Frontiers in Psychology, 12, 581492.

[7] Cappelli, L., D'Ascenzo, F., Ruggieri, R., Rossetti, F., & Scalingi, A. (2019). The attitude of consumers towards "Made in Italy" products. An empirical analysis among Italian customers. Management & Marketing, 14(1), 31–47.

[8] Carbone, A., Cacchiarelli, L., & Sabbatini, V. (2018). Exploring quality and its value in the Italian olive oil market: a panel data analysis. Agricultural and Food Economics, 6(1), 6.

[9] Chaudhuri, A., & Holbrook, M. B. (2001). The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty. Journal of Marketing, 65(2), 81–93.

[10] Erdem, T., & Swait, J. (2004). Brand credibility, brand consideration, and choice. Journal of Consumer Research, 31(1), 191–198.

[11] Geuens, M., & De Pelsmacker, P. (2017). Planning and conducting experimental advertising research and questionnaire design. Journal of Advertising, 46(1), 83–100.

[12] Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. European Business Review, 31(1), 2–24.

[13] Huang, F., Siddiqui, R. A., & Liu, Q. (2025). Sustainability Cues Can Delay Consumption—Journal of Consumer Research, ucaf050.

[14] Kauppinen-Räisänen, H., & Jauffret, M.-N. (2018). Using colour semiotics to explore colour meanings. Qualitative Market Research: An International Journal, 21(1), 101–117.

[15] Laurent, G., & Kapferer, J.-N. (1985). Measuring consumer involvement profiles. Journal of Marketing Research, 22(1), 41–53.

[16] Lee, J. K., & Lee, W.-N. (2009). Country-of-origin effects on consumer product evaluation and purchase intention: The role of objective versus subjective knowledge. Journal of International Consumer Marketing, 21(2), 137–151.

[17] Liu, S. S., Johnson, K. F., & Johnson, K. F. (2005). The automatic country-of-origin effects on brand judgments. Journal of Advertising, 34(1), 87–97.

[18] MacKenzie, S. B., Lutz, R. J., & Belch, G. E. (1986). The role of attitude toward the ad as a mediator of advertising effectiveness: A test of competing explanations. Journal of Marketing Research, 23(2), 130–143.

[19] Melnyk, V., Klein, K., & Völckner, F. (2012). The double-edged sword of foreign brand names for companies from emerging countries. Journal of Marketing, 76(6), 21–37.

[20] Meneses, R. V., & Santos, S. (2019). Country of Origin as a Constraint to Internationalisation. Journal of Business and Economics Review, 4(2),105-113.

[21] Nicolau, J. L., Mellinas, J. P., & Martín-Fuentes, E. (2020). The halo effect: A longitudinal approach. Annals of Tourism Research, 83, 102938.

[22] Ninni, A., Raimondi, M., & Zuppiroli, M. (2006). The success of "Made in Italy": an appraisal of quality-based competitiveness in food markets (No. 2006-EP10). Department of Economics, Parma University (Italy).

[23] Oduro, S., De Nisco, A., & Petruzzellis, L. (2024). Country-of-origin image and consumer brand evaluation: a meta-analytic review. Journal of Product & Brand Management, 33(1), 108–124.

[24] Ordonez, L. D. (1998). The effect of correlation between price and quality on consumer choice. Organizational Behavior and Human Decision Processes, 75(3), 258–273.

[25] Reichheld, A., Peto, J., & Ritthaler, C. (2023). Research: Consumers' sustainability demands are rising. Harvard Business Review, 18, 2023.

[26] Samiee, S., Leonidou, L. C., Katsikeas, C. S., & Aykol, B. (2024). Research on country-of-origin perceptions: review, critical assessment, and the path forward. Journal of International Business Studies, 55(3), 285–302.

[27] Sugiarto, A., Lee, C.-W., Huruta, A. D., Dewi, C., & Chen, A. P. S. (2022). Predictors of pro-environmental intention and behavior: A perspective of stimulus–organism–response theory. Sustainability, 14(23), 16047.

[28] Sultan, P., Wong, H. Y., & Azam, M. S. (2021). How perceived communication source and food value stimulate purchase intention of organic food: An examination of the stimulus-organism-response (SOR) model. Journal of Cleaner Production, 312, 127807.

[29] Tian, K., Xuan, W., Hao, L., Wei, W., Li, D., & Zhu, L. (2022). Exploring youth consumer behavior in the context of mobile short video advertising using an extended stimulus–organization–response model. Frontiers in Psychology, 13, 933542.

[30] Verlegh, P. W., & Steenkamp, J.-B. E. (1999). A review and meta-analysis of country-of-origin research. Journal of Economic Psychology, 20(5), 521–546.

[31] Washburn, J. H., & Plank, R. E. (2002). Measuring brand equity: An evaluation of a consumer-based brand equity scale. Journal of Marketing Theory and Practice, 10(1), 46–62.

[32] Witek-Hajduk, M. K., & Grudecka, A. (2023). Ways to neutralize the country-of-origin effect in the emerging market firms international branding. International Journal of Management and Economics, 59(1), 46–56.

[33] Yoo, B., Donthu, N., & Lee, S. (2000). An examination of selected marketing mix elements and brand equity. Journal of the Academy of Marketing Science, 28(2), 195–211.