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Abstract

In response to the dominance of hybrid and multinational products in the U.S. textile and apparel marketplace, and the increasing consumer demand for product origin information, the study examined the relationship among multi-level COO displays, consumer purchase preferences, and perceived price. The results of 76 responses through a 2×2 randomized block, repeated measures research, using the United States and China as country of parts (COP) and country of manufacturing (COM), showed that the two-level COO impacted consumers' purchase preferences and perceived prices, based on their perceived value of sustainability. However, consumers' purchase preferences significantly decreased as a result of unusually high perceived prices. These findings have important implications for textile and apparel businesses and policy makers as adding COP along with COM to declare the product's COO would increase consumer purchase preferences and perceived values, if applied along with careful pricing strategies.

Keywords

country of origin, consumer behavior, perceived price, textiles, apparel industry

Introduction

Today's textile and apparel industry is extremely fragmented and globalized (Dicken, 2007). Fibers, textiles, accessories, and other raw materials are produced in various countries and transported to other countries to be assembled into a final product. As a result, a significant portion of apparel products in today's marketplace are hybrid or multinational products (or products with more than one

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country of origin); yet, consumers have little information on the extent of to which apparel products are manufactured in many different countries. The lack of the detailed country of origin information has increasingly become unsatisfactory to today's consumers. "Where products come from" is an important topic in consumers' mind (Bhaduri & Ha-Brookshire, 2011). Some of these consumers may make extra efforts to purchase products made domestically using domestic raw materials to help support local communities and the domestic economy. Online directories of U.S.-made products, such as www.madeinusa.org and www.stillmadeinusa.com, demonstrate this type of consumer desire for U.S.-made goods. These sites clearly communicate the message of "Made in America may save America; so do the right thing," specifically appealing to consumers who are concerned about U.S. jobs and communities.

For textile and apparel products, country-of-origin (COO) labels are required for any products sold to consumers in the United States. The Bureau of Consumer Protection division of the U.S. Federal Trade Commission (2011) enforces the labeling requirements, including COO, to help give consumers access to free and accurate information, exercise their rights, and avoid fraud and deception in the marketplace. However, under the current COO rules and labeling practices, the country in which manufacturing took place is considered the COO, without the inclusion of further information on where major parts or raw materials were made or produced (Samiee, 1994). Considering the complexity of the global supply chain and the influx of hybrid or multinational products, the single-country COO display may not be ideal to represent true COO and, thus, consumers may have insufficient COO information when making purchase decisions for domestically produced or made products.

To help this problem, researchers in the marketing literature have claimed that businesses must clarify country of design (COD), country of parts (COP), and country of manufacturing (COM; Chao, 2001; Essoussi & Merunka, 2007; Inch & McBride, 1998; Iyer & Kalita, 1997; Veale & Quester, 2009). However, studies on the roles of COD, COP, and COM in consumers' purchase preference and behavior is not easy to find in the textile and apparel literature. Consequently, to improve our understanding of multilevel COO and consumers' perceptions and preferences, this study was designed to investigate if: (a) consumers' purchase preferences are affected by different combinations of multilevel COO; (b) consumers' perceived prices are affected by different combinations of multilevel COO; and (c) consumers' purchase preferences decrease when perceived prices are high, regardless of the social responsibility value of COO.

Background

Development of COO Labeling Rules in the United States

COO labels were not required by law for any products imported into the United States before 1890 (Morello, 1984). By then, although not required, some companies included COO markings to show prestige and increase marketability (Morello, 1984). Products without COO labeling were understood to be either domestic or nonprestige imported products intended for the U.S. market. However, after the First World War, the U.S. government required any products imported from Germany to carry the words, "Made in Germany," in order to punish German industries (Morello, 1984).

A formal implementation of COO rules took place with U.S. Congress' enactment of the Tariff Act of 1930, which required all U.S. imported products to include COO information (U.S. Customs and Border Protection, 2003). For textile and apparel products, specifically, fiber information was regulated through the Silk Regulation Act in 1932 and the Wool Products Labeling Act in 1939. Under the Textile Fiber Products Identification Act in 1960, all textile and apparel products must include the percentages of fibers present, the name of the manufacturer or company's registered number, and the name of country where the product was processed or manufactured. Currently, the

Bureau of Consumer Protection division of the U.S. Federal Trade Commission (2011) enforces these labeling requirements to help provide consumers with free and accurate information so they can exercise their rights and avoid fraud and deception.

Issues Surrounding COO Labeling Requirements in Today's Marketplace

As the history of labeling requirements shows, new Acts have been introduced as the marketplace has changed. An emergence of synthetic fibers forced the creation of the Textile Fiber Products Identification Act in 1960, and the Permanent Care Labeling Regulation has been in place since 1972, as new products made of these new fibers and in foreign countries created confusions among consumers as to how care for such products. Since then, the textile and apparel marketplace has tremendously changed—from both business and consumer perspectives. Yet, little has changed in COO requirements for textile and apparel products.

From the business perspective, today's supply chain of textile and apparel products is extremely globalized, fragmented, and complicated (Dicken, 2007). Raw materials, components, and parts, necessary to make apparel products, are produced, finished, inspected, and shipped from one set of countries to another country, where the final products are assembled. This creates complex supply chains of hybrid or multinational products (Chao, 2001). From the consumer perspective, today's consumers have an extremely heightened awareness of sustainability issues and domestic economic conditions (Bhaduri & Ha-Brookshire, 2011). Consumers want to know how and where the products are made, and by whom. These are important factors for consumers who often base their decision to buy on a desire to minimize or eliminate any harmful effects and to maximize any beneficial impacts on society—socially responsible consumers (Ha-Brookshire & Hodges, 2009). To them, knowing where products are made is very important for purchase decisions as such information provides reassurance of the products' safety and responsible business practices for the environment and society (Dimara & Skuras, 2005).

Despite these consumers' needs and wants, very few apparel companies successfully communicate their supply chain activities, including the countries involved and factory locations. Currently, there are no legal requirements to display all countries involved in apparel manufacturing. Faced by limited resources and budget, most apparel companies do not provide accurate, in-depth, and comprehensive information of the movement of their raw materials and parts and the final manufacturing locations (Bhaduri & Ha-Brookshire, 2011). Thus, it is extremely difficult for consumers to find out where the major components, such as fabrics, were made and how far these components traveled to be assembled, even if they want to know.

To help solve some of these labeling issues, researchers have argued that "one country" origin determinations are misleading in the case of hybrid or multinational products and, thus, multilevel COO displays must be utilized to reflect today's reality (Bilkey & Nes, 1982). The simple concept of COO as the country in which a product was "made" is no longer applicable, as so much of the product is now made in two or more countries (Han & Terpstra, 1988). New dimensions or levels of COO, such as COD, Country of Assembly (COA), COP, and Country of Manufacture (COM) have emerged in the literature. COD refers to the country where the final product was initially conceptualized and designed (Essoussi & Merunka, 2007). COA describes the country where the product is partially or fully assembled, but not ready to be sold to the end consumer (Insch & McBride, 1998). COP points out the country where component parts are manufactured. COM refers to the country where the final product is manufactured (Essoussi & Merunka, 2007; Insch & McBride, 1998). Using sneakers, jeans, portable stereos, and watches as stimuli, Iyer and Kalita (1997) found COM affected consumer evaluations of product quality, value, and willingness to buy.

Despite the possibility of multiple countries' involvement in a product's making, COM represents COO in the U.S. marketplace (Samiee, 1994). Thus, products are marketed as manufactured from or

“made in” this country may contain components from multiple countries while still following the Textile Fiber Products Identification Act of 1960 (Samiee, 1994). Currently, U.S. COO marking regulations do not require merchandise labels to contain COA, COD, or COP, except for automobiles (Chao, 2001).

Theoretical Frameworks

The review of the changed market environment and COO rules from the business and consumer perspectives brings up important questions: Should textile and apparel companies provide more detailed COO information to reflect today’s fragmented global supply chain, so that consumers can better evaluate the values of the COO attribute in hybrid or multinational products? If so, how will the additional COO information affect consumers’ ultimate purchase preference? To explore these questions, the study adopted the COO effect, information processing theory of consumer choice, and perceived price as theoretical frameworks.

COO Effect

The literature shows that COO plays a major role in consumers’ decision-making processes and influences how consumers view and evaluate product attributes (Samiee, 1994). The term “COO effect” refers to a consumer’s dependency upon COO when forming opinions on the quality of a product (Han & Terpstra, 1988). Schooler (1965) was among the first to study COO effect, concluding that COO effect exists and that consumers have biases toward less developed countries’ products. Since then, experimental studies have been conducted and mostly agreed that COO acts as an external cue of quality, influencing overall evaluations of products, value perceptions, willingness to pay, and purchase intention (Bilkey & Nes, 1982; Samiee, 1994). As hybrid or multinational products become popular, several studies addressed the COO effect of such products. Chao (2001) illustrated that COD and price level significantly affects U.S. consumers’ perceptions of color television quality, and influences overall product evaluations. Using automobiles, Ahmed and d’Astous (1993) reported that both household buyers and industrial purchasers are affected by COD and COA, but industrial purchasers tend to focus more on COD than household purchasers. Further, Tse and Lee (1993) found that COA and COP affect consumers’ quality evaluations for sound system equipment. Most of the previous studies focused on household products, such as televisions, automobile, and sound systems, that typically require an extensive information search and consumer involvement in purchasing.

The COO effect was also discussed in the socially responsible consumer behavior literature. COO typically has been associated with the terms ethnocentrism, nationalism, bias toward imported products, stereotyping, and patriotism (Lee, Hong, & Lee, 2003). Often, these terms were used to describe a consumer movement against globalization or open-door trade policies. In the United States, 9/11 and economic recession further promoted nationalism or patriotism among consumers (Lee et al., 2003). Therefore, purchasing goods made in the United States is considered socially responsible behavior and in the apparel literature, Ha-Brookshire and Norum (2011) found U.S. consumers prefer and are willing to pay more for apparel made of U.S. raw materials than apparel made of raw materials with no origin information.

Information Processing Theory of Consumer Choice

Until the 1970s, most consumer research shared a fundamental paradigm that consumers are rational decision makers with perfect skills to evaluate choice situations and well-defined preferences that do not change depending on situations (Bettman, Luce, & Payne, 1998). Psychologists criticized this assumption and proposed an alternative approach to consumer choice research—the information

processing theory of consumer choice (Bettman, 1979). Since then, the theory has been discussed in the psychology and strategic communication literatures (see Payne, 1982 and Lang, 2000). Little research has been conducted in apparel studies using this theory.

Information processing theory of consumer choice is based on the notion that decision makers have limitations on their capacity for processing information—*bounded rationality*. This approach to understand consumers and humans has been focused on consumer decision-making strategies, including the impact of the amount and availability of information, alternative information, and attribute trade-off (Alba & Marmorstein, 1987; Frisch & Clemen, 1994; Tyversky, 1972). The theory suggests that consumers do not always make perfect decisions. Rather, consumers make decisions based on the situation in which they are in and with limited information. Thus, when asked to make choices, consumers often construct their preferences on the spot as needed. In addition, consumers use a variety of ways to construct their preferences and try to solve the problems presented in a given environment. Therefore, an act of constructing preference is highly context dependent (Bettman et al., 1998). Typically, when familiar and experienced with the preference object, consumers are less likely to construct their preferences on the spot. However, when the decision problem is new or complex, consumers are more likely to form their preferences using various cues available on the product. In this study, multilevel COO information that does not currently exist in the U.S. apparel marketplace would be considered new, unfamiliar, and complex extrinsic cues. Consumers would use these cues to construct their new preferences. Thus, the study hypothesized:

Hypothesis 1: Consumer purchase preferences are affected by different combinations of multi-level COO.

During the preference construction process, consumers may use various decision-making strategies. A compensatory strategy is one such strategy. Compensatory strategy explains that consumers may evaluate values of each attribute and consider if a good value on one attribute can compensate for a poor value on another (Bettman et al., 1998). Thus, consumers make explicit trade-offs among attributes before making preference choices. For example, consumers often make a trade-off between reliability and price when deciding how much more they are willing to pay for a highly reliable car, compared to a poorly reliable one. Thus, reliability and price are compensatory. If consumers always choose a cheaper car, regardless of reliability, then reliability and price in this case is considered noncompensatory.

Perceived Price

Despite the past research on consumers' willingness to pay for domestically made or grown products, these studies have limitations in predicting consumers' future purchase behavior, as many consumers are believed to change their preferences if the price is too high. Price is discussed as an influential extrinsic cue in relation to consumer evaluation of product alternatives and their purchase decisions (Veale & Quester, 2009). Consumers use price as a predictor of quality, particularly when they have limited knowledge of product offerings (Veale & Quester, 2009). In addition, consumers perceive higher quality products as more expensive and products of lesser quality as cheaper; or higher-priced products have higher quality and lower-priced products have lesser quality. This price/quality relationship is described as the "price–reliance schema," reflecting the notion of "you get what you pay for" (Lee & Lou, 1996).

Thus, when price is unknown and consumers face new product information, such as COD, COP, and COM, consumers may utilize the newly available information to formulate the value of the product. These values would then affect perceived quality and/or perceived price through the price–reliance schema. Perceived quality is defined as the consumer's judgment about the product's

overall excellence or superiority and perceived price is what a consumer gives up or sacrifices in order to obtain a product (Zeithaml, 1988). Both perceived quality and perceived price are found to affect consumers' purchase intentions. In this study, how consumers evaluate values of the product is based on the multilevel COO information of hybrid or multinational products. Thus, using perceived price as a proxy of perceived quality, the study hypothesized:

Hypothesis 2: Consumers' perceived prices are affected by different combinations of multilevel COO.

Although perceived price and perceived quality may have strong correlations, when price is too high, consumers' preference for such a product typically diminishes. This effect is consistent with a compensatory strategy of information processing theory, suggesting consumers make explicit trade-offs among attributes before making preference choice (Bettman et al., 1998), and the notion that price is one of the most important factors of consumers' trade-off analysis (Veale & Quester, 2009). Consumers may change their preferences once price is intervened, even if the social responsibility value of COO does not change. Consumers may make a trade-off between COO values and price that may affect purchase preferences. Thus, the study hypothesized:

Hypothesis 3: Consumers' purchase preferences decrease when perceived prices are high, regardless of the social responsibility value of COO. That is, price and social responsibility value of COO are noncompensatory.

Methodology

2 × 2 Within-Subject, Repeated Measure, Randomized Experimental Design

A 2 (COP) × 2 (COM) within-subjects, repeated-measure experimental research was designed. COP and COM were chosen to represent the multilevel COO display for hybrid products. That is because the current COO labeling rules do not require COP, yet COP may affect how consumers perceive price and form purchase preferences. COP in this experiment referred to the country of fiber origin, as fibers are the most prominent part of an apparel product. Specifically, cotton was selected as a major part because it meets over half of the world's apparel needs and almost everyone owns cotton apparel, regardless of income, gender, and age (Kadolph, 2011). COM referred to the country where the apparel manufacturing took place.

COD was not considered in this study for two reasons. First, COD of apparel products is often strongly associated with the country of brand origin, or COB. As the textile and apparel industry becomes fragmented in the global marketplace, businesses in developed countries focus on branding, designing, and product development, while those in developing countries perform fiber and fabric production and apparel manufacturing (Ha-Brookshire & Dyer, 2008). Thus, more often than not, COB and COD represent the same country and consumers usually believe design is performed in the country where the brand originated (Samiee, 1994). Thus, identifying the independent effect of COD seemed complicated and beyond the scope of this study. Second, COD was not included because previous research suggested that the COO effect becomes weaker if the COO construct is broken down into too many dimensions (Tse & Lee, 1993). Thus, two levels of COO were deemed appropriate for the purpose of the study.

For both COP and COM, the United States and China were selected for a few reasons. First, these countries are two of the top cotton producing countries in the world. Second, over half of U.S. cotton is exported to China, making China the leading importer of U.S. cotton (United States Department of Agriculture, 2011). Third, China is the leading cotton apparel exporter to the United States,

supplying over 27% of the entire quantity of cotton apparel imported to the U.S. marketplace in 2008 (Cotton Incorporated, 2009). Thus, it was assumed that the significant portion of U.S. cotton exported to China comes back to the United States as final products, suggesting many “Made in China” apparel products are, in fact, made with U.S. cotton.

Purchase preferences were measured twice, or repeatedly measured, before and after perceived price was constructed and communicated by the participants. A repeated measure is a type of multivariate response in which the same variable is measured more than once for each participant under different conditions (Ramsey & Schafer, 2002). Particularly, a crossover experiment was designed so that each participant will be exposed to more than one treatment level—purchase preferences (a) before price was intervened (or preprice purchase preference) and (b) after price was intervened (or postprice purchase preference; Ramsey & Schafer, 2002). Thus, it was designed that each participant would be exposed to all four levels of COP and COM in random order, making each participant consider a separate sampling unit, or block, in randomized experiments (Ramsey & Schafer, 2002).

Sample

After approval from the Institutional Review Board, participants were recruited through advertisements in university news media and a local newspaper in spring 2011. A large retailer’s gift card for the amount of \$10 was given as an incentive. In total, 76 participants were recruited, and all of them completed the study. Because the study was designed to be a randomized experiment with each participant as a block, it was possible to collect all 76 responses per cell created by the combination of two COPs and two COMs. This design met the sample size requirements suggested by Hair, Black, Babin, Anderson, and Tatham (2006). First, the minimum sample size per cell was greater than the number of dependent variables of three: (a) preprice purchase preference, (b) perceived price, and (c) postprice purchase preference. Second, the sample size of 76 exceeded the minimum sample size per cell, 20, for repeated measure design. Third, 76 responses per cell ensured equal sample size per cell.

Overall, 54 out of the 76 participants were women, and the rest were men. This was expected, as the recruitment statements included “apparel shopping behavior,” and women seemed more interested in this study than men. Fifty-five participants indicated themselves as Caucasian, 10 as Asian or Pacific Islander, 7 as African American, and 4 as Other. Participants ranged from 18 years old to 69 years old, with an average age of 30.6. Approximately half of the participants were single or divorced, and the rest either were in a relationship or married. Half of the participants had some college or high school education, and, finally, over half of the participants had over U.S. \$30,000 as household income (see Table 1 for the sample descriptions).

Stimuli and Data Collection Procedures

Four cards were created to represent four different sets of COP and COM of an apparel product. Each card was 3-inch wide and 2-inch long, containing the following information in black lettering on a white background: (a) 100% cotton from United States, Made in United States; (b) 100% cotton from United States, Made in China; (c) 100% cotton from China, Made in United States; and (d) 100% cotton from China, Made in China. First, participants were asked to complete demographic surveys. Next, the experiment began with the statement, “We are showing you four different cards that represent different country of origins of a cotton t-shirt in the random order. Assuming all others are equal, please think about which option would be the most or least sustainable to the environment and society. Please take as long as you wish.” The literature suggests sustainability must address the triple bottom lines—economic, environmental, and social goals—to meet the needs of the present

Table 1. Characteristics of the Study Sample

Characteristic	Frequency	Percentage (%)
Gender		
Male	22	28.9
Female	54	71.1
Ethnicity		
Caucasian	55	72.4
African American/Black	7	9.2
Asian and Pacific Islander	10	13.2
Hispanic/Middle Eastern/Other	4	5.3
Age		
21 and under	24	31.6
22–34	31	40.8
35–44	5	6.6
45–54	9	11.8
55–64	5	6.6
65 and over	2	2.6
Marital Status		
In a relationship	19	25.0
Single/divorced	39	51.3
Married	18	23.7
Education level		
Some high school education	1	1.3
High school degree	4	5.3
Some college education	34	44.7
College degree	21	17.1
Some graduate education	8	10.5
Graduate degree	16	21.1
Income		
Less than \$10,000	18	23.7
\$10,000–\$29,999	17	22.4
\$30,000–\$59,999	15	19.7
\$60,000–\$99,999	15	19.7
\$100,000–\$119,999	7	9.2
\$120,000–\$199,999	3	3.9
\$200,000 above	1	1.3

Note. Total number of participants = 76.

without compromising the needs of future generations (Elkington, 1998). However, consumers may have different perceptions on being sustainable, affecting different purchase decisions. Thus, an explanation of “being sustainable to the environment and society” was not provided to participants to capture participants’ perceived sustainability on the study stimuli. Participants were asked to rate their purchase preferences, after considering the sustainable impact of each card, on the scale of 1 to 7, with 1 being the least likely and 7 being the most likely. These responses were recorded as preprice purchase preference. This procedure took on average 2–3 min.

Next, the four cards were mixed and presented to the participants again. This time, participants were presented with the statement “Now, we found out that a typical cotton t-shirt sold in major stores in the United States is made out of 100% cotton and has a label of ‘Made in China.’ The average price of this shirt is \$40. Compared to this shirt, how much do you believe these options would cost at a retail store? Please indicate one retail price for each option while considering the sustainability impact of each card.” This procedure was done to obtain perceived price of each card, using a

cotton shirt with a “100% cotton, Made in China” label as a control. The control card represents what consumers see in the marketplace under the current COO rules. The retail price of \$40 was set to represent the medium quality, average price cotton apparel products in the U.S. marketplace. Participants took approximately 2–3 min to complete this task for all four cards. The responses were recorded as perceived price.

Finally, the four stimulus cards were collected and mixed again before being presented to the participants a third time. Participants were asked again for their purchase preferences after accounting for the retail price that they have just indicated. Participants reviewed all the four cards again in random order with the retail price provided next to each card. Participants were reminded again to consider the sustainability impact of each card and took approximately 2–3 min to complete. The responses were recorded as postprice purchase preference, with 1 being the least likely and 7 being the most likely.

Data Analysis

After descriptive analysis, whether or not multilevel COO information affects consumers' purchase preferences (the study Hypothesis 1) and consumers' perceived prices (the study Hypothesis 2) were analyzed through analysis of variance (ANOVA). Post hoc mean comparisons were made to examine the mean differences among the four different COP and COM levels. The impact of perceived price on changes in purchase preference (the study Hypothesis 3) was examined with a 4 (COO Variations) \times 2 (Time) repeated-measures ANOVA. Mean plots and post hoc comparisons were performed for further analysis.

Results and Discussion

Mean Differences in Purchase Preferences and Perceived Prices

Preprice purchase preference. Overall, the results of ANOVA showed there were statistically significant differences in means of preprice purchase preferences among the four COP and COM variations, $F(3, 300) = 5.398$; $p = .001$. Thus, the study Hypothesis 1 was supported. The participants indicated that, after considering its sustainability impact, they are most likely purchase a shirt with the “100% cotton from U.S.A. Made in U.S.A.” label (or Card 1), followed by the shirt made in China with U.S. cotton (or Card 2) and the shirt made in U.S.A. with Chinese cotton (or Card 3). The participants were least likely interested in the shirt made in China with Chinese cotton (or Card 4). These findings indicated that U.S. consumers consider cotton production or apparel manufacturing in the United States to be more sustainable than that in China, consistent with the popularity of recent local or national movements by U.S. consumers.

Post hoc mean comparisons, using the least significant difference, or LSD, method with the family-wise error rate of 10%, revealed four of the eight pair mean comparisons were significantly different. A family-wise error rate of 10% was used to reduce compound uncertainty in simultaneous multiple mean comparisons, while capturing meaningful differences at a reasonable error rate (Ramsey & Schafer, 2002). The LSD value for preprice purchase preference was .287. Mean comparisons involving Card 1 indicated that, when both COP and COM are the United States, the participants preferred the shirt made in the United States with U.S. cotton to any other option. Particularly, when the shirt is made in China, the participants strongly preferred the product made of U.S. cotton rather than Chinese cotton (Mean difference = .553, $p = .055$). However, there were no statistically significant mean differences in purchase preference between Cards 2 and 3 (Mean difference = .184; $p = .522$), and Cards 3 and 4 (Mean difference = .368, $p = .201$).

Perceived price. The ANOVA results showed there were statistically significant differences in means of perceived prices among the four different COP and COM variations, $F(3,300) = 12.405$;

Table 2. Descriptive Results of Preprice Purchase Preference, Perceived Price, and Postprice Purchase Preference^a

Dependable Variable	Stimulus			Mean	Standard Deviation	LSD Value ^d ($\alpha = .10$)
	Card	COP ^b	COM ^c			
Preprice purchase preference ^e	1	United States	United States	5.934	1.738	0.223
	2	United States	China	5.355	1.802	
	3	China	United States	5.171	1.792	
	4	China	China	4.803	1.751	
Perceived Price ^f	1	United States	United States	56.882	25.216	2.007
	2	United States	China	46.882	17.628	
	3	China	United States	46.118	17.981	
	4	China	China	38.184	13.004	
Postprice purchase preference ²	1	United States	United States	4.105	2.145	0.26
	2	United States	China	4.237	1.938	
	3	China	United States	4.316	1.927	
	4	China	China	4.553	2.002	

Note. COM = country of manufacturing; COP = country of parts; LSD = least significant difference.

^aSample size $N = 76$ per mean.

^bCountry of parts (cotton origin).

^cCountry of manufacturing (Apparel sewing location).

^dIf the difference between any two means is greater than the LSD value, it can be concluded that there is a statistically significant differences between the two means.

^eOn the scale of 1 to 7, with 1 being the least likely to 7 being the most likely.

^fIn U.S. dollars, with \$40 as a control price.

$p = .000$. Thus, the study Hypothesis 2 was supported. The participants perceived Card 1 to be the most expensive at \$56.88, compared to the \$40 control shirt. Cards 2 and 3 had a similar mean of approximately \$46. Card 4 had the lowest perceived price of \$38.18, below the control price of \$40 at retail. Post hoc mean comparisons with a family-wise error rate of 10% illustrated that five of the six pair mean comparisons showed statistically significant differences, with the LSD value of 3.077. The largest difference in perceived prices was found between Cards 1 and 4. This result was expected, however, the mean difference of \$18.70 was surprisingly high ($p = .001$). This difference represents an approximately 49.0% higher price for Cards 1 than 4. The difference between Cards 1 and 3 was the second largest, \$10.80 (or 23.4% in difference), suggesting that participants significantly undervalue U.S.-made shirts if the cotton was imported from China ($p = .001$). Next, Cards 1 and 2 had \$10 (or 21.3%) of mean difference in perceived price, indicating the participants value U.S. apparel manufacturing much more highly than Chinese manufacturing even if the cotton was produced in the United States ($p = .001$). However, when cotton was produced in China, the participants perceived the U.S.-made shirt to be \$7.93 (or 20.8%) more expensive than the Chinese-made shirt ($p = .010$). Finally, perceived prices between Cards 2 and 3 had no statistically significant differences, suggesting the participants may not be certain as to how to estimate the value of the involvement of each country in apparel products (Mean difference = .763; $p = .804$).

Postprice purchase preference. The results of ANOVA showed there was no statistically significant difference in means of postprice purchase preferences among the four different COP and COM variations, $F(3,300) = .668$; $p = .572$. This finding suggested that none of the means differ from each other, indicating the participants' purchase preferences became homogeneous once the price was perceived. Table 2 shows descriptive results of the study variables and LSD values.

Table 3. Results of Post Hoc Purchase Preference Mean Difference Analyses^a

Stimulus		Mean Difference ^b	Standard Deviation	t Value (df = 75)	p Value (two-sided)
Country of Parts (Cotton Origin)	Country of Manufacturing (Sewing Location)				
United States	United States	1.829	2.63	6.062	.000
United States	China	1.118	2.455	3.972	.000
China	United States	0.885	2.48	3.006	.004
China	China	0.25	2.373	0.919	.361

Note. ^aSample size = 76.

^bPreprice purchase preference—Postprice purchase preference.

Role of Price in Purchase Preference Changes

The result of a repeated measure ANOVA analysis used Cards (the four sets of COP and COM variations) as a between-subject variable, Time (two times measured purchase preferences before and after price intervention) as a within-subject variable, and Perceived Price as a covariate. The statistics of Mauchly's test of sphericity was 1.000 ($p = .000$), suggesting the study data did not violate the sphericity problem. First, tests of between-subject effects indicated that there was no statistically significant main effect of Cards on purchase preferences, $F = .462$; $p = .462$. Second, tests of within-subject effects indicated that there was a statistically significant main effect of Time, $F = 13.378$; $p = .000$, implying Time influences purchase preferences. There was also a statistically significant interaction effect between Time and Perceived Price, $F = 49.106$; $p = .000$, suggesting the influence of Time on purchase preferences depends on Perceived Price. However, there was no statistically significant interaction between Time and Cards, $F = 1.306$; $p = .377$.

These findings showed that the participants' purchase preferences significantly decrease once participants perceived high prices. The overall mean of purchase preferences was 4.809 with a standard error of .082, after accounting for the average price of \$47.016. This result supported the study Hypothesis 3. Post hoc mean comparisons showed that, after the price was perceived by the participants, purchase preferences showed a statistically significant decrease for Cards 1, 2, and 3, $t = 6.062$, $p = .000$; $t = 3.972$, $p = .000$; and $t = 3.006$, $p = .004$, respectively. Yet, Card 4 did not show statistically significant changes in purchase preferences when the price was intervened, $t = .919$, $p = .361$. The biggest change in purchase preferences occurred for Card 1 (Mean difference = 1.829), followed by Card 2 (Mean difference = 1.118) and Card 3 (Mean difference = .855). Card 4 showed little or no change in participants' purchase preferences (Mean difference = .250). These findings implied that when the participants were exposed to different sets of COP and COM, they may estimate different prices or values of each different product and change their purchase preferences. In this case, for Cards 1, 2, and 3, price and COO were noncompensatory as consumers always preferred cheaper options. Table 3 illustrates the results of post hoc purchase preference mean difference analyses, and Figure 1 shows estimated mean plots of purchase preferences measured before and after the price was intervened for four different levels of COO.

Conclusions

In response to the dominance of hybrid and multinational products in the U.S. textile and apparel marketplace and the increasing consumer demand for product origin information, the study examined the relationship among multilevel COO displays, consumer purchase preferences, and perceived prices. The results of 76 responses through a 2 (COP: United States and China) \times 2 (COM: United States and China) randomized, repeated measures research showed that, first, this study supported the hypothesis that declaring COM and COP matters to consumers as they form

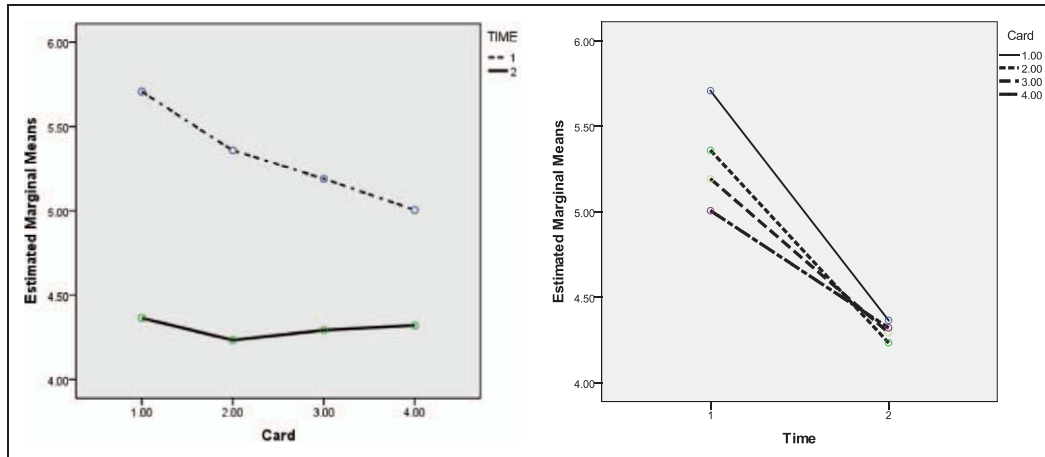


Figure 1. Estimated mean plots of purchase preferences measured before and after price intervention for different variations of country of parts (COP) and country of manufacturing (COM).¹

Note. ¹Covariates appearing in the model are evaluated at Price = \$47.0164. Time 1 = purchase preference before price was intervened; Time 2 = purchase preference after price was considered; Card 1 = 100% cotton from United States. Made in United States; Card 2 = 100% cotton from United States. Made in China; Card 3 = 100% cotton from China. Made in United States; Card 4 = 100% cotton from China. Made in China.

different preferences and prices. In fact, consumers seemed to value the apparel product made in the United States with U.S. cotton so much that they thought such a product would be almost twice as expensive as the product made in China with Chinese cotton. Particularly, when consumers had information about Chinese raw materials for U.S.-made apparel, they significantly undervalued the product and showed lower preferences, compared to U.S.-made apparel with U.S. cotton. Similarly, when consumers knew that Chinese-made products had U.S. raw materials, their preferences and perceived price were increased. However, although consumers may believe domestic fibers or domestic manufacturing are important for overall sustainability efforts, consumers seemed to perceive those products to be too expensive and, thus, such products were less likely to be preferred. This finding showed the strong power of price as a moderator of purchase preferences and supported the notion that price and social responsibility value of U.S.-made products may not be compensatory.

Although the preferences significantly decreased due to high perceived price, these findings have important implications for textile and apparel businesses and policy makers. First, extremely high price overshadows consumers' desire to help domestic economy and local communities, even when consumers strongly value U.S. involvement in the global supply chain. Thus, careful and reasonable pricing strategies are recommended to capture consumers' support for domestic products. These strategies would help businesses' economic performance as well as consumer satisfaction from purchasing products with the added values of sustainability.

Second, policy makers may want to consider adding COP to the COO label rules because consumers see different values for a different COP even if the product is made in the same country. Without COP, many consumers may assume products with the "Made in U.S.A." label are made in the United States with U.S. raw materials and, thus, are willing to accept or even pay premiums for these products. Unless there is a guarantee that businesses could use the "Made in U.S.A." label only for products with 100% domestic raw materials, components, and manufacturing, the current single-country COO rules leave much room for consumer deception and misunderstanding surrounding COO. By adding COP to the COO label, this problem could be solved and consumers would be able to understand and value apparel products accurately.

Third, considering China is the leading apparel exporter to the United States, and much of the apparel in today's marketplace is made in China, perhaps the study findings on the apparel products made in China are more important and relevant to many of today's businesses and policy makers than those for the U.S.-made apparel products. In this study, consumers are found to prefer and highly value apparel products made of U.S. raw materials despite their being manufactured in China. However, the reality is that most of these finished goods bear a "Made in China" label, with little chance for consumers to know or appreciate the value of U.S. raw materials. Apparel businesses that use U.S.-grown cotton or U.S.-made raw materials may want to communicate their COP even though the apparel is manufactured in foreign countries. This would help consumers understand the role of the United States in the supply chain and appreciate the contribution of the United States to the final products. For this reason, this finding also offers further strong support as to why COP is crucial for the future COO labeling rules. The changes in COO rules would help shed lights on today's U.S. textile and apparel industry from raw material production to final goods consumption.

The study findings and implications offer a few important contributions to the literature. First, the results supported the literature of the COO effect, information processing theory of consumer choice, and the effect of price on consumer purchase behavior. COO and multilevel COO affected consumers' purchase preferences and perceived prices. These perceptions then were utilized as cues or critical information for consumers' preference construction. Thus, the findings support the theory that consumers do not always have perfect and absolute preferences. Rather, they construct new preferences and often trade off the values of each product attribute as they face new problems to solve. In this study, consumers traded off the value of the social responsibility of the product derived from multilevel COO displays for the economic value of the price, suggesting a noncompensatory strategy between the two values.

Second, the study findings contribute to businesses, policy makers, consumers, and researchers in the textile and apparel industry, by emphasizing the importance of COP in today's fragmented global supply chain. The study findings show that if consumers have knowledge of COO, COO affects their perceived price and purchase preferences. Therefore, consumer advocacy groups and industry members may want to educate consumers to seek COO information if they want to choose the right products. Apparel businesses may be able to communicate part of their supply chain through COP and gain higher appreciation for their products from consumers. The findings also help policy makers re-evaluate the single-country COO rules and make a case for adding COP to COO requirements, in order to provide accurate information of hybrid or multinational products to consumers. Consumers may now want to start asking where the parts are from beyond simply the manufacturing origin, so they can make more informed decisions when making purchases. Finally, textile and apparel researchers may want to use more than simple unit indicators of domestic manufacturing when analyzing industry outputs. Perhaps, COP on the COO label would lead to a new way to calculate the U.S. contribution when foreign-made apparel products are imported. The COP and COM display would tremendously improve our understanding of the current U.S. textile and apparel industry.

Despite the important implications and contributions, the study has limitations and, therefore, offers future research opportunities. First, although the price was found to be an important moderator for consumers' purchasing preferences, the study did not find out the exact price point at which consumers' decrease in purchase preference no longer exists. Discovery of such a turning point for price would be a great help for businesses' pricing strategies. This examination could possibly be done by repeating similar studies multiple times while manipulating prices for the various levels.

Second, the study findings did not examine why consumers have such high perceived value for U.S.-made products using U.S. raw materials—almost twice as high as Chinese-made products using Chinese raw materials. Perhaps, consumers overestimate costs of manufacturing products in

the United States while reducing the environmental impact and meeting social needs. Further research is recommended to understand how consumers formulate their perceived cost on sustainable products. Given that the unreasonably high perceived prices affected consumers' preferences, it is critical to educate consumers about the various elements of COO, so they could better value U.S.-made products than the study participants did. If we could understand why this phenomenon occurs and what type of consumers overvalue U.S.-made products, businesses, policy makers, researchers, and consumer advocacy groups would be able to help inform consumers of the fair value of U.S.-made products. This would help consumers be less affected by fraud or deception that may occur from incomplete COO labels, and less turned off by high price for U.S.-made products.

Third, the sample size of this experimental study was limited and the participants were recruited with monetary compensation. Although the recruitment materials included the fact that the nature of the study is about apparel shopping behavior, it was also possible that some participants might not have been the main apparel shopper for themselves or household. In addition, the same population is skewed with a large proportion of White females and young adults. These particular sample characteristics could have affected the overall results of the study. Therefore, generalization of the findings must be done with a caution. Further research with a greater number and diversity of, and qualified participants would help validate the study results.

Finally, although experimental research design was useful to keep participants fully engaged in the study and produce good quality data from the participants' responses, because of the laboratory setting, some participants might have provided what they perceived to be socially acceptable answers. Thus, further studies in a natural shopping environment are recommended, where researchers are not intrusive and participants may not feel judged by answers they provide.

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Bio

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