

INVESTIGATING FRAMEWORKS: CAN NEGATIVE ECO-LABELS  
MOTIVATE CONSUMERS TO PURCHASE?

by

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INVESTIGATING FRAMEWORKS: CAN NEGATIVE ECO-LABELS  
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## ABSTRACT

This study seeks to identify if a negative label manipulation can influence consumers to purchase an eco-friendly product more than a positive or no label. In addition, it seeks to identify how a negative and positive ecolabel affects how consumers trust and evaluate a products. The products in the study are low-involvement commodity products as determined by a pretest and include a carton of eggs and a bar of soap, while the ecolabel messages are variation of “cage-free” and “sustainably-harvested.” In today’s hyperconscious, environmentally sensitive environment, businesses should be more aware of the environmental friendliness that products create or lack. Marketers, in specific, have the knowledge to create package labels that communicate the eco-friendliness of a product in order to influence more environmentally conscious purchase decisions among consumers. In return, businesses will realize the demand for environmentally friendly products and create better products for the world at large. A key limitation to this study is that respondents did not perceive enough of a difference between positive and negative ecolabels on product packages to make large conclusions about the purchase behavior across ecolabel frameworks. Thus, future studies should be sure to create negative and positive labels that are noticeably different in the message framework. The results of the study show that consumers are more likely to purchase, trust, and have a higher evaluation for positive ecolabels on the soap product. Consumers are more likely to have a higher evaluation for a positive ecolabel on an egg product. Further studies need to be aware that other influences among respondents include differences across purchase involvement of products, interest in the environment, and overall understanding of the environmental message.

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## INTRODUCTION

Adopting green practices represents an increasingly attractive business strategy in today's hyper-conscious, environmentally-aware global market. As politicians and government leaders discuss preventative action against global warming, consumers have developed a more environmentally cautious mindset when purchasing products, and many businesses have moved to capture this market by adopting "green" practices that minimize a product's impact on the environment. Today, global consumers recognize a personal accountability to address environmental issues and look to companies to help. The 2015 Cone Communications/Ebiquity Global CSR Study reveals 91 percent of global consumers expect companies to operate responsibly to address social and environmental issues, and 84 percent of consumers globally say they seek out responsible products where possible. Even more, the study reveals an overwhelming number of consumers will have a more positive image, be more trusting, and be more loyal towards a company that support social or environmental issues (Cone Communications, 2015).

While an array of "green" practices exist for businesses, an increasingly popular communication tactic has been to place an "ecolabel" on products in order to display information about its environmental impact. Whether a business does this to entice consumers or to uphold an internal value is up for debate; regardless, the trend is rising (The Environmental Magazine, 2004). The number of new eco-label certifications has grown rapidly with little quality and no standardization. In the 1990s only a dozen eco-label programs existed, whereas today over 427 programs exist (Delmas, 2012). Eco-labels today range not only in sheer number, but also in type, breadth, and source. The International Organization for Standardization has developed three types of voluntary environmental labels that differ based on label source and claim, and standards for each type attempt to prevent misleading labels from entering the market. However, IOS labels are voluntary. Because

there is minimal standardization among the labels, companies are able to pick and choose what kind of label should go on which product.

The result of this pick-and-choose labeling is an entirely new shopping experience: one that inundates consumers with mixed “eco-friendly” messages and leads to consumer confusion, distrust of brands, and ineffective eco-labeling altogether. Many consumers do not have the time or competency to weigh the quality of one ecolabel over another, especially when the labels are vague, simple claims that have been made by the company itself rather than a third-party certification (Atkinson & Rosenthal, 2014). For low-involvement, habitual products like milk or soap, consumers are more receptive to descriptive ecolabels from regulated sources like the government (Atkinson & Rosenthal, 2014). Ultimately, research has shown a desire in both consumers and businesses to purchase and sell more environmentally friendly products, but issues of confusion and distrust have prevented ecolabels from becoming a real motivator for purchase intent. People with a negative or apathetic attitude towards environmentally friendly consumerism are unlikely to be affected by a certified eco-label that displays confirmation of eco-friendliness, especially when shopping for habitual-purchased commodity products (Atkinson & Rosenthal, 2014). Environmental labelling can only be effective when consumers pay attention to the label and use it in their decision to purchase, which eco-labels today do not appear to be doing (Schrama, 2010). Instead, ecolabels thus far have only strengthened consumer trust and overall product evaluation. A study has yet to confirm that ecolabels motivate purchase intent.

Several studies have explored the effects of various ecolabels on consumer attitudes, personal satisfaction, emotional appeal, trust of brand, and purchase intent. So far, these studies have shown that the presence of an ecolabel over no presence at all leads to a more positive attitude of the product, more emotional attachment to the product, and an indirect

influence of choice for the product (Gutierrez & Seva, 2016). Studies have also revealed that consumers prefer ecolabels that are descriptive over simple, but a price premium on a product with an ecolabel still impedes purchase intent (Atkinson & Rosenthal, 2014). Several studies have been done to measure the effects of positively-framed ecolabels as well as certified eco-labels in motivating consumers to purchase a product. A 2010 study by Nanda Schrama at Wigenigen University measured the effects of negatively-framed products that lack “eco-friendliness” against the effects of positively-framed products that are “eco-friendly.” The study used one product with a simple negative label that read “no eko” and another product with a simple positive label that read “eko” to communicate if the product was or was not environmentally friendly. While the aim of the study by Schrama was to understand consumer decision making between two different products – one that was eco-friendly and one that was not – no research has explored the effects of both positive and negative framing of descriptive labels on the same eco-friendly product. In addition, no study has tested this particular framing technique across multiple product categories.

This study seeks to fill the gap of a positive versus negative eco-label on the same product across multiple product categories. No one in past research has looked at the effects of different label frameworks as well as different product categories at the same time, and this is what my study seeks to do. Past research has studied either a single product, a single category, or a single framework. The goal of my study is to close this gap and test negative and positive frameworks of the same product across different types of commodity products, in the hopes that the implications of the findings will create more standardization across eco-labels. The research seeks to determine the most effective ecolabel scheme based on a positive frame, negative frame, and no frame differentiation model. In addition, two product categories, one personal care item and one commodity food item, will be tested using these schemes in order to understand how consumers are influenced across multiple commodity

product types with similar pricing and purchase involvement. Each ecolabel will be from a third-party certified source and contain the same amount of descriptive information, because studies in the past have shown these are the most effective ways to influence consumer attitudes and purchase intent (Atkinson & Rosenthal, 2014).

As global initiatives work towards a more sustainable standard of living, business environments demand a higher state of social and environmental responsibility that includes standardization and clarity across ecolabels. By gaining a better understanding of ecolabel frameworks, several key stakeholders will benefit. First, businesses tapping into the socially responsible market will be able to break through the clutter and connect to consumers in a more effective way that avoids confusion and distrust and motivates purchase. Second, ecolabel certification providers such as government agencies, NGO's, public agencies, and manufacturers will have a more standardized model to use on ecolabels that focuses on an effective framing scheme. Third, consumers will have a less-cluttered, more informative, and more effective experience when shopping for commodity products.

This thesis seeks to answer the following questions: Does negative frame of an eco-friendly product influence consumer purchase intent more than a positive frame? In addition, how does consumer attitude and purchase behavior change across different commodity product categories? Finally, how do differing purchase behaviors among consumers affect responsiveness to ecolabel schemes?

The latter part of the thesis details the steps taken to answer the above questions. First, a literature review will synthesize the available reports, articles, and publications thus far on green marketing, eco-labeling, and framing techniques of products. It will also orient the reader towards the gap in this research. Second, the methodology section will detail how this research is executed. In particular, it covers the process of survey development, data

collection, analytic measurements, hypotheses, results, and limitations to the study. Next, the discussion section will make conclusions based on the methods used, reveal any findings that were different than expected, and discuss areas for future research. Finally, the implications section will generalize the findings for the wider public and make recommendations for existing and future businesses.

## LITERATURE REVIEW

### Eco-Labeling

The global business environment is increasingly under fire with demands from consumers, policy makers, and environmentalists to adopt more environmentally cautious strategies throughout its business models. One way of meeting this demand has been to provide clarity and transparency of products. As a response to a new wave of global initiatives aimed at providing more transparent information on the environmental impact of products and services, businesses have adopted ecolabels to product packaging with the goal of certifying a certain level of “eco-friendliness” about that product. Ecolabels intend to signal to consumers the environmental attributes of a product by providing easily interpretable information and thereby evoking increased demand for environmentally favorable products (Delmas, 2012). They are information tools aimed at internalizing the external effects on the environment, and seek to direct consumers towards more environmentally safe products (Atkinson & Rosenthal, 2014).

The reason businesses adopt ecolabels can vary by industry and strategy. Some industries are required by public entities to provide a label detailing environmental impact, like automobile and energy industries, while other industries have voluntary digression to provide an ecolabel, like the food industry (Ecolabel Index, 2016). On the contrary, some businesses use ecolabels on products for strategic reasons such as targeting a certain

audience, branding a particular “eco-friendly” image, or achieving a part of its mission and values claim.

Because the goal of ecolabels is to ease the consumer decision-making process by directing them towards more sustainable products, it can only be effective if the message is clearly communicated. According to a 2014 study by Atkinson & Rosenthal, effective signals work only to the degree that consumers deem them to be useful and credible. In other words, “consumers will search for information about products, but only as long as the effort or cost of doing so does not exceed the marginal expected return” (Atkinson & Rosenthal, 2014). Thus, when the credibility of an ecolabel is questioned, consumers are less likely to use it as an informational cue. Studies have shown that confidence in ecolabels relies heavily on the source of the eco-label and the content of the claim (Atkinson & Rosenthal, 2014).

According to the 2016 Ecolabel Index report, consumers today are faced with 465 unique ecolabels across 25 industry categories, from household appliances and food to clothing and energy. The type of ecolabel ranges across industries, source of ecolabel, and message of ecolabel. Ecolabels can come from sources such as governments, manufacturers, or third-party organizations based on specific environmental criteria established by the source itself. Because a wide range of products exist on the market, environmental labels and declarations vary greatly among them.

## Benefits of Ecolabels

### Consumer Benefits

Consumers benefit from ecolabels in two ways. First, ecolabels provide consumers with information regarding environmental impact of products, which directs consumers towards “environmentally-friendly” products and creates an ease in purchase. A 2015 study by Cone Communications revealed that 84 percent of consumers seek out responsible products whenever possible. Based on this statistic, when the majority of consumers are

confronted with a product that displays such responsibility with an ecolabel, all other factors aside, they are likely to choose this product. Several studies have shown that consumers view products with an ecolabel more preferably than products without a label (Atkinson & Rosenthal, 2014; Brécard, 2014; Stokes, 2015). Second, research has revealed a sense of personal satisfaction is achieved when consumers purchase more sustainable products. Consumers are relatively ego-centric, and are more motivated to make purchases when they see a personal benefit rather than a community gain, especially for low-involvement products. A study by Gutierrez & Seva revealed that participants experience significantly more positive emotions than negative emotions when buying eco-products, while participants are indifferent in experiencing positive or negative emotions when buying non-eco products (Gutierrez & Seva, 2016). This means that consumers feel a personal benefit to buying eco-products.

### Company Benefits

Companies benefit from ecolabels in two ways. First, putting information about the eco-friendliness of a product on its label is a great way to capture a huge share of today's market. Studies done by Cone Communications and Nielson prove there is a growing share of the market who consider environmental factors when making a purchase decision. What is more, a Nielsen global online study found that a majority of Millennials, in particular, are more willing to pay extra for sustainable offerings than other types of offerings. In addition, the percentage of consumers ages 15-20 who are willing to pay more for products and services that come from companies committed to positive social and environmental impact went up from 55 percent in 2014 to 72 percent in 2015 (Nielson, 2016). As an extension of capturing a growing market, the use of ecolabels can form a strong connection between brands and consumers. By revealing sustainable practices, a company reveals a personal value about its business that is pervasive to the majority of consumers. Studies have proven

that the presence of an ecolabel improves consumer opinion on the brand in terms of likeability, trust, and an indirect willingness to purchase (Atkinson & Rosenthal, 2014). Placing an ecolabel on products ultimately bridges a communication gap between products and consumers (The Environmental Magazine, 2004). According to a senior associate in the Food and Agriculture Program at the Institute for Agriculture and Trade Policy, “For producers, they’re a way to express a personal ethic, the environmental-stewardship components of their operation, or the social benefits of their manufacturing practices. For consumers, it’s a way to use the everyday act of shopping to express their values” (The Environmental Magazine, 2004).

### Problems of Eco-Labeling

#### Lack of Consistency

The sheer number of ecolabels causes problems for effective “green” marketing. Ecolabel government standards are not harmonious among one another and differ based on region. For example, over 84 countries have introduced national standards for organic products, with most having separate organic logos (Organic Monitor, 2013). The lack of harmonization between these standards is leading to multiple certifications and an exponential rise in various eco-labels, each one offering a different claim about a product’s environmental impact. Along with government standards, an ecolabel may differ on the source of the ecolabel, the type of environmental claim, and the breadth of the environmental claim.

First, products can have a certification-type of ecolabel given by a third-party supplier such as a public institute, a Non-Governmental Organization, or the government. At the same time, products can self-declare a certain “eco-friendliness” themselves, and create a label that has not been officially certified by a third-party. The result is an array of label sources that lead to different consumer effects. A study by Atkinson & Rosenthal revealed that consumers are more likely to trust government-sourced labels but are more persuaded to

“like” corporate-sourced labels (Atkinson & Rosenthal, 2014). While a government-issued ecolabel reassures the consumer of the validity of the product, a manufacturer may create its own ecolabel in order to provide the consumer with more persuasive or detailed information regarding the product’s eco-friendliness.

Second, an ecolabel’s content can differ in terms of type of claim and breadth of claim. Ecolabel types can cover a range of topics, from sourcing and energy, to the degree of recycling and reuse, to pollution during manufacturing, to pesticide use, and so on (Ecolabel Index, 2016). Further, an ecolabel claim can range not only by type of impact but also by breadth. For instance, the EU Eco Label is a thorough indicator of environmental care and identifies products that have a reduced environmental impact throughout their whole life cycle, from raw material extraction to production, use, and disposal (European Commission, 2016). This type of label ensures that all parts of the supply chain practice sustainability. On the opposite end, a label like “fair trade” is given by a smaller third-party certifier, TransFair USA, and works with product cooperatives to ensure good working conditions, benefits, and reinvested profits (The Environmental Magazine, 2004). This label is narrowly defined and does not guarantee other environmental criteria such as recycled materials, low carbon footprint, and no air pollution.

Consequently, the lack of consistent labeling across products results in consumer confusion when making purchase decisions among products. A study by the University of Nantes revealed that label profusion can blur information provided by labels, and leads to purchase decisions based on label attributes like the image it conveys rather than the quality it guarantees (Brécard, 2014). When consumers are unsure about the environmental benefit of a label it can inhibit the fundamental benefit that the ecolabel seeks to achieve (Delmas 2012).

### Lack of Transparency

Another issue faced by consumers involves the difficulty to discern the quality of a product that has a simplified ecolabel. A claim like “free range” or “organic” is vague and forces the consumer to make an assumption about the quality of the product without being able to verify or quantify the claim. As such, consumers see a product labeled with this claim as a credence good, or a good that has “little to no discernible value for a consumer after its purchase” (Business Dictionary, 2016). Consequentially, these credence claims about eco-friendliness cause consumer confusion about the tangible benefit of the product. Further, when consumers cannot discern an ecolabel claim from its real impact they have trouble trusting the brand, which impedes a consumer’s decision to purchase the product.

Many studies have explored ways to create transparency between ecolabels and the claim it offers. One way to become more transparent is to mitigate consumer distrust by using a government-sourced or third party label instead of a company-sourced one. A study published in the Journal of Advertising revealed consumers are more likely to trust labels certified by a government source than an internal source (Atkinson & Rosenthal, 2014). A reason could be that consumers hold a greater confidence in the government, a regulated entity ultimately responsible for several industry safety measures, than in a corporation, a business entity ultimately aiming to make a profit. Internally-sourced ecolabels are also subject to greenwashing,” or claiming to be “green” in advertising but having business initiatives that reflect otherwise. For example, an energy company may spend money advertising about the “green” technology they use, but the majority of its business is environmentally harmful (Greenwashing Index, 2016).

Another and perhaps more effective way to achieve transparency of eco-labeled products is to use a more descriptive, detailed label rather than a simple “eco-friendly” statement (Atkinson & Rosenthal, 2014). More descriptive labels may be used to deliver

transparency to the consumer about the type of environmental impact of the product. According to Atkinson & Rosenthal's study, "consumers prefer more detailed labels that contain information about the eco-claims being made rather than simple icons or graphics that suggest eco-friendly qualities." Not only that, but consumers do value the argument specificity of an ecolabel more than the source; thus, a company may sacrifice using a government-sourced ecolabel that is less specific in order to use a manufactured-sourced ecolabel that is more specific and earn a higher consumer preference (Atkinson & Rosenthal, 2014).

### **Regulations: ISO-defined Voluntary Label Schemes**

The US Federal Trade Commission (FTC) issued Title 16-Part 260 CFR: Guides for the Use of Environmental Marketing in 1992, which has since helped marketers avoid making environmental claims that are "unfair or deceptive" (Duke University, 2010). As a result, misleading environmental claims have been relatively mitigated and third-party certification programs have gained more popularity. The International Organization for Standardization (ISO) has identified three broad types of voluntary environmental labels:

**Table 1. ISO-defined voluntary label schemes.**

Type I	Voluntary, multiple-criteria-based, third-party program that awards a license that authorizes the use of environmental labels on products indicating overall environmental preference of a product within a particular product category based on life cycle.
Type II	Informative environmental self-declaration claims.
Type III	Voluntary programs that provide quantified environmental data of a product, under pre-set categories of parameters set by a qualified third party and based on lifecycle assessment, and verified by that or another qualified third party.

The benefits to using ISO standards are that they have global recognition, legitimacy that comes from being drafted by a diverse range of stakeholders, and represent objectively agreed benchmarks that create a level playing field for the dissemination of environmental information.

For purpose of parsimony, the scope of this report will focus solely on Type II (ISO 14021) labeling schemes, or self-declared environmental claims, on packaging of low-involvement commodity products. Several regulations exist for this type of label. Three key elements for Type II claims include use of symbols, evaluation and claim verification requirements, and specific requirements for selected claims (International Organization for Standardization, 2012). Examples for Type II labels include Energy Star, WaterSense, Greenguard, and SCS Recycled Content (Duke University, 2010). The basic requirements for all claims are that they should be accurate and not misleading, substantiated and verified, and unlikely to result in misinterpretation (International Organization for Standardization, 2012).

### Eco-Label Message Frameworks

In today's market, ecolabel frameworks may vary based on content. Some examples of different frameworks used include text claims, image claims, one-word claims, detailed claims, and positive claims. A study by UCLA recommended ways to frame eco-labels. To increase consumer awareness and understanding, labels should favor simple and clear message to consumers without sacrificing information. To stimulate willingness to pay, labels should emphasize increased quality, health benefits, and leverage peer pressure (Delmas, 2012). Because the study seeks to influence consumer purchase intent, a focus will be on the later three recommendations.

A phenomenon of ecolabels today is that currently only positive framing techniques are used on labels. Positively-framing techniques entail discussing positive quality attributes of the products, and the gains the consumption of the product will have for the consumer and his environment (Schrama, 2010). This is a one-sided positive message that attempts to persuade consumers to choose the eco-focused product in order to better the world. While trust and transparency of a label are two of the most important aspects of ecolabels to

consumers (Atkinson & Rosenthal, 2014), it is in question whether framing every ecolabel in a positive way achieves this.

In order to fully understand the most effective method of targeting consumers with ecolabels, more research needs to be done to investigate the effects of negatively-framed labels. A negative eco-label aims to alert consumers by indicating a negative environmental outcome, with the goal of influencing consumers to avoid the environmentally unfriendly products and instead purchase the environmentally friendly ones (Grankvist, 2004). In a study by Gunne Grankvist it was shown that individuals with weak or no interest in environmental issues were not affected by the positive or negative outcome eco-labels; however, the negative labels did affect individuals with medium interest in environmental issues over the positive labels. Finally, the positive label was most effective for consumers who already had strong interest in environmental protection (Grankvist, 2004). This study reveals that consumers with medium environmental interest can possibly be motivated to avoid damaging alternatives when presented with a negative eco-label.

A study of Cacioppo, Ito, Larsen, and Smith suggests individuals do have negative bias, which indicates that negative information tends to have a larger influence on evaluations than positive information. Negative experiences attributed to a product tend to have a greater influence on the buying behavior of consumers (Teirlinck, 2013). The Prospect Theory by Kahneman & Tversky assumes that losses and gains are valued differently, and that individuals weigh losses more in decision-making than they weigh gains (Kahneman & Tversky, 1979). In short, consumers are loss averse. This suggests that consumers would be more affected by a negative label than positive labels. By introducing a label that displays the negative impact of failing to purchase the eco-friendly product, marketers might persuade a wider share of consumers to choose their product than if they used a label that displays only positive impacts of purchasing the product. Negative labeling could be more effective than

positive labeling because it creates cognitive dissonance in the decision-making process that is not present with positive labeling. When with a label displaying negative results if the product is not purchased, a consumer may experience a desire to prevent that negative result, and thus succumb to purchasing the product (Schrama, 2010). This theory can be applied to every day habits and the way people process information. In general, bad events have a greater impact than good ones, and negative information psychologically requires more processing and contributes more to the final evaluation than positive information (Teirlinck, 2013).

In terms of environmental labelling, negative labels may be more effective than positive ones in motivating consumer behavior. A study by Biel, Dahlstrand and Grankvist (2004) examined the impact of positive versus negative labels on consumer preferences, and found that consumers with environmental interest are more affected by the negative label in terms of preferences for products. A study was done in 2010 by Nanda Schrama that examined the effect of positive versus negative ecolabel schemes among consumers. While Schrama's study compared the effects of a positively-labeled eco-friendly product and a negatively-labeled non-eco-friendly product, this study will examine the effects of both positive and negative labels on the same eco-friendly product. Also, Schrama's study used one word, "Eko" and "No Eko," on her label. This study seeks to incorporate more descriptive yet clear environmental messages that represent Type II label schemes. In addition, this study preserves originality by testing these measures across two low-involvement product categories: food products and personal care products.

## HYPOTHESIS DEVELOPMENT

Studies in the past have proven that a positively framed ecolabel on commodity products strengthens consumer trust and likeness over none-framed ecolabels when the label is descriptive and from a government-regulated source. These same studies have revealed

that consumers are not influenced by the positive label when it comes to purchase intent. This study seeks to determine if a negative ecolabel influences a consumer's purchase intent of a commodity product, over either a positive ecolabel scheme or no ecolabel scheme. Thus, this study seeks to understand the following hypotheses.

*H1: Consumers perceive a noticeable difference between the positive, negative and no manipulation frameworks.*

The first assumption is necessary in order to move on with the study, because individuals must be able to differentiate ecolabel frameworks in order to be affected by one over the other. For this hypothesis, the aim is for individuals to notice that the positive ecolabel is creating a positive message that stresses the positive implications of purchasing the eco-friendly product. In addition, individuals must notice that the negative ecolabel is creating a negative message that stresses the negative implications of not purchasing the product. Finally, the individuals must recognize that a neutral ecolabel, one that does not create a positive or negative environmental message, is in fact neutral. This is important because the message frameworks in this study were created based on past studies and information about the products. They are not certified real labels, so it is important to do a manipulation check in order to ensure that the intended messages have been received the proper way.

*H2: When using a negative-framed ecolabel on commodity products, consumers will be motivated to purchase the product more than when using a positive-framed or no-framed ecolabel.*

Studies in the past have shown that consumers with environmental interest are motivated to trust products that have positive environmental messages, but these studies fail to show that the positive message can influence a purchase. Because individuals are loss

averse, and take more time to process negative information, this study seeks to understand if a negative label can influence consumers to purchase a product more than a positive label does. If the negative message is strong enough to be perceived as a “loss” or “risk” by individuals, then the message should be strong enough to influence a consumer decision when purchasing the product.

*H3: When using a positive-framed ecolabel on commodity products, consumers will trust the product more than when using the negative-framed or no-framed ecolabel.*

A study by Gutierrez & Seva (2016) reveals consumers are more likely to trust a product that has a positive label. The theory that a positive label will influence consumer trust more than a negative or no label is based on the idea that while negative messages might influence consumers to pause and reflect on a negative outcome, it does not necessarily create trust between the consumer and the brand. Studies have proven that the presence of an ecolabel in general improves consumer opinion on the brand in terms of likeability, trust, and an indirect willingness to purchase (Atkinson & Rosenthal, 2014). It has also been revealed that consumers trust labels that are from a government source. Thus, this study seeks to not only understand a consumer’s desire to purchase a product but also how this purchase intent differs from consumer trust. A consumer might be motivated to buy a product but not necessarily trust the brand. Trust is also motivated by an understanding of the message. Negative labels are presented in a more complex way than positive labels because they require individuals to think about the negative impact of failing to purchase the product. This might cause consumers to be uncomfortable in the decision-making process which can lead to less trust than if the label was a positive message.

*H4: When using a positive-framed ecolabel consumers will have a higher overall evaluation than when using the negative-framed or no-framed ecolabel.*

The final hypothesis is based on past studies that have shown individuals to like a product that has a positive message. An array of studies have proven this to be true: that consumers become amiable with a brand that creates a positive, uplifting message about the use of the product, because it gives the consumer a sense of comfort and happiness. This study seeks to reveal how positive labels differ from negative labels when consumers evaluate the brand. While negative labels might motivate a consumer to purchase a product, it does not necessarily mean consumers will like that product. A study by Atkinson & Rosenthal actually proved that positive labels create consumer overall likeness and a high overall evaluation. This study seeks to differentiate positive and negative labels when referring to overall evaluation of the product.

## METHODOLOGY

### Determining the Ecolabel Message Pretest

Based on past research, this study seeks to identify the purchase intent of consumers across different frameworks as well as different product categories. The differing frameworks include a positive, negative, and no ecolabel, while the differing product categories include a food product and a personal care product. The study is focused on commodity product purchase behavior which are most likely to be low-involvement purchases. The implications behind this involvement level is that in order for a package label to have an effect on one's purchase, one must use a descriptive label over a simple one. Thus, the packaging in this study will use descriptive labels that detail the type of eco-friendliness the product exercises. The two commodity product categories chosen for the experiment are food products and personal care products. The two products this study seeks to manipulate the ecolabel on are a carton of eggs and a bar of soap. To determine the two products, I asked a group of TCU students what items they purchase most frequently when they go to the store, one food item and one personal care item. The methodology for this pretest were 15 individual interviews, wherein I asked TCU undergraduate students about

shopping habits when purchasing food and personal care items. I asked the respondents to discuss what products they buy most often within both food and personal care product categories. The finding of the pretest interviews revealed that the wide majority of TCU undergraduate students purchase egg products the most when referencing food items. Thus the first product the study seeks to research will be a carton of eggs. In addition, the majority of TCU undergraduate students purchase some type of soap product when referencing personal care items. For purpose of parsimony, the second product the study seeks to research will be a bar of soap instead of a different type of soap.

#### Ecolabel Product 1: Cage-Free Eggs

A carton of eggs is a basic commodity food product found at most if not all grocery stores. The move towards providing and purchasing “cage-free” eggs has been a global shift in both businesses and consumers. According to the Human Society of the United States, cage-free egg systems provide hens the ability to “walk, spread their wings and lay their eggs in nests” which are important factors of hen lives that are hindered when confined in caged spaces (Human Society of the United States, 2016). Businesses typically communicate that an egg product is “cage-free” by placing an eco-label on the product package. However, the U.S. government has no official definition or requirement for what should be put on the egg carton labels. In general, a cage-free or non-caged product means that the animals have been raised uncaged and are free to walk, nest, and engage in other natural behaviors. This does not, however, guarantee that these animals have access to the outdoors or that acts such as beak-cutting and starvation-based forced molting are prohibited (Human Society of the United States, 2016). Because most consumers are not fully aware of the implications behind “cage-free” eggs, an ecolabel may include both a simple “cage-free” claim as well as a more descriptive explanation of what “cage-free” really means for that product.

The most common type of ecolabel on egg is “cage-free,” and thus this eco-message will be manipulated in the experiment for food items. In reference to the Prospect Theory, the carton of egg ecolabel must be manipulated so as to present a gain for the positive message and a loss for the negative message. Thus, the positive ecolabel will read “100% cage-free” so as to create a positive message about purchasing the product. The negative ecolabel will read “0% caged” in order to create a negative message about not purchasing the product. Further details in the manipulation of the product messages is below.

#### Ecolabel Product 2: Sustainably-Harvested Soap

A bar of soap is another basic commodity personal care product that can be found at a grocery store. More specifically, soaps made from palm oil are common and must be harvested from agricultural fields. An issue with palm oil cultivation is that it can cause deforestation in areas where sustainability measures are not practiced. According to the Roundtable on Sustainable Palm Oil, this means that heavily forested land has been cleared in order to be converted into palm oil plantations. This in turn can have an effect on displacing communities surrounding the plantations. Thus, businesses have adopted “sustainably-harvested” practices when making products such as soap. Although it is not required by the government, the Roundtable on Sustainable Palm Oil has developed a set of standards which companies can comply with in order to obtain a “Certified Sustainable Palm Oil” to place on products as an ecolabel. Such standards mean “no primary forests or areas which contain significant concentrations of biodiversity or fragile ecosystems” or “areas which are fundamental to meeting basic or traditional cultural needs of local communities” can be cleared (Roundtable on Sustainable Palm Oil, 2017). Many consumers may not understand the meaning behind this ecolabel, so some soap products may choose to not only place a simple certification claim on their package but also place a descriptive explanation of what “certified sustainable palm oil” really means.

Because bar soap is more likely to display an ecolabel than other soap products, namely “sustainably harvested palm oil ingredients,” this product message will be manipulated in the experiment for personal care items. In reference to the Prospect Theory, the bar of soap ecolabel must be manipulated so as to present a gain for the positive message and a loss for the negative message. Thus, the positive ecolabel will read “100% sustainably-harvested” so as to create a positive message about purchasing the product. The negative ecolabel will read “0% non-sustainably harvested” in order to create a negative message about not purchasing the product. Further description on the positive and negative effects of the consumer decision will be placed after this claim, which is explained in further detail below.

### Manipulating the Ecolabel

After the two products, a carton of eggs and a bar of soap, are chosen for the experiment, the non-branded product ecolabels are created by manipulating the message of the product in a positive, negative, or neutral way. By incorporating different product categories into the mix, I hope to eliminate any bias towards a certain type of product. Other methods of reducing bias will be the controls used. All ecolabels will contain similar Type II IOS label schemes other than the different in positive, negative, or no framing.

For a carton of eggs, a non-branded product is created called “Fresh Farm Eggs” and includes a simple farm house image on the front with no other text other than “Six Brown Eggs.” A positive ecolabel frame reads “100% cage-free,” while a negative ecolabel frame reads “0% caged.” The descriptive labels for a non-branded carton of eggs are created and displayed below the package so as to highlight the message in greater detail (see Appendix 1). The following messages are displayed to respondents, with each respondent seeing only one of the three options:

No Frame: “*Purely Delicious: our eggs are a wholesome and delicious source of protein from eggs laid on our family farms.*”

Positive Frame: “*Purely Delicious: our eggs are a wholesome and delicious source of protein from eggs laid on our family farms. Our Hens are 100% Cage-Free. By purchasing cage-free eggs, you are promoting farms that raise hens in uncaged environments, free to walk, nest, and engage in other natural behaviors.*”

Negative Frame: “*Purely Delicious: our eggs are a wholesome and delicious source of protein from eggs laid on our family farms. Our Hens are 0% Caged. By purchasing caged eggs, you are promoting farms that raise hens in caged environments, restricted from walking, nesting, or engaging in other natural behaviors.*”

For a bar of soap, a non-branded product is created called “Soap Cleansing Bar” with no other text on the package. A positive ecolabel frame reads “100% sustainably-harvested” while a negative ecolabel frame reads “0% non-sustainably harvested.” The descriptive labels for the non-branded bar of soap are created and displayed below the package so as to highlight the message in greater detail (see Appendix 1). The following messages are displayed to respondents, with each respondent seeing only one of the three options:

No Frame: “*This bar is refreshingly therapeutic, soothing sensitive skin while leaving your skin clean and silky smooth. Use for face or body.*”

Positive Frame: “*This bar is refreshingly therapeutic, soothing sensitive skin while leaving your skin clean and silky smooth. Use for face or body. This soap is made using 100% sustainably harvested palm oil. By purchasing soap that has been sustainably harvested, you are promoting the safeguarding of plant and animal biodiversity, the care for local communities, and the soil's productivity.*”

Negative Frame: “*This bar is refreshingly therapeutic, soothing sensitive skin while leaving your skin clean and silky smooth. Use for face or body. This soap is made using 0% non-sustainably harvested palm oil. By purchasing soap that has been non-sustainably harvested, you are promoting the destruction of plant and animal biodiversity, the neglect for local communities, and the soil’s unproductivity.*

### **Survey Development**

In order to test the hypotheses statements, a survey was developed through *Qualtrics* that was sent out to a pool of TCU undergraduate students for completion. The primary purpose of the survey was to understand how consumer decision-making differs when different eco-labeling techniques are used across two commodity products. A full copy of the survey can be found in Appendix 2.

The first section of the survey was a consent form that explains to the respondent the purpose of the survey and various risks associated with taking the survey. It also explains that the results of the survey are confidential and provides a contact number for any questions or concerns. Respondents must respond with “Yes” to continue on in the survey.

The second section of the survey displayed the non-branded product labels of both a carton of eggs and a bar of soap, along with 8 questions regarding those products. Either a positive, negative, or no ecolabel framework was displayed to the respondent at random for both the carton of egg and the bar of soap. Thus, each respondent saw one of three ecolabels for a carton of eggs as well as one of three ecolabels for a bar of soap, with a total of 9 possible combinations. After the respondent sees each product he or she was asked the same 8 questions regarding overall evaluation with the product, trust in the brand, likeliness to purchase the product, fairness of price, willingness to pay a premium, importance of the label, perceived manipulation, and eco-friendliness. All questions were asked on a 1 to 5 metric scale.

The third section of the survey asked questions regarding the purchase behavior of both products. The first three questions asked how often respondents go shopping for grocery and personal care products. The next set of three questions asked about a respondent's purchase behavior in regards to each product. These questions were obtained from two studies, "New Insights About the FCD Grid" by Ratchford in 1987 and "Measuring the Involvement Construct" by Zaichkowsky in 1985. They asked respondents to rate the process of choosing a brand of egg/soap on each of the following 1 to 7 metric scales: very important/very unimportant decision, requires a lot of thought/requires little thought, and a lot to lose if you choose the wrong brand/little to lose if you choose the wrong brand.

The fourth section of the survey asked a series of environmental awareness questions as obtained from the New Ecological Paradigm (NEP) scale of 2012 by Berkshire Encyclopedia of Sustainability. These six questions were asked on a 1 to 7 metric scale and included questions measuring concern for the environment, how much the quality of the environment affects the quality of one's own life, if personal actions affect the environment, and if one switches products based on environmental claims.

The fifth section of the survey asked simple demographic data such as sex, grade, current living situation, and course section. The last question, course section, was not applicable to the majority of students and was used only for recording which students in Dr. Kleiser's classes took the survey in order to obtain extra course credit.

### **Data Collection and Cleaning**

The type of sampling procedure used when administering the *Qualtrics* survey was judgmental sampling, which allows the researcher to manually select the sample size based on the judgment of the overall population of interest. As the population for this experiment is limited to TCU undergraduate students, a sample of 90 TCU undergraduates was obtained using an anonymous link generated in Qualtrics. The unique-user link was copied from

*Qualtrics*, placed in emails, posted on social media groups, and spread through word of mouth and through mobile texts in order to gain attention and convert respondents. Based on these channels, the pool of respondents included over 600 TCU undergraduate students. The total number of students who took and completed the survey was 90, thus making the sample size for the study 90 respondents. 26 respondents did not finish the survey and were deleted from analysis. The data were cleaned to represent the 90 respondents who completed the survey. According to *TCU's Office of Institutional Research*, 60% of undergraduate students are female and 40% are male. This survey obtained 41.1% male and 58.9% female respondents. The majority of these respondents, 88.9%, are in either junior or senior grade standing. In addition, an overwhelming 87.7% of respondents lived in off-campus housing.

The survey opened on March 31, 2017 and closed on April 4, 2017. Upon completion, the pre-coded data was extracted from *Qualtrics* and put into Excel. In Excel, the data was cleaned and prepared for analysis in SPSS Statistical Software. Because each respondent saw only one of three conditions for each product, the data had to be stacked so that there was no “missing” data for questions regarding the other conditions. In excel, the various conditions were labeled to reflect what the respondents saw, as shown below.

E1: Egg, No Manipulation

E2: Egg, Positive Manipulation

E3: Egg, Negative Manipulation

S1: Soap, No Manipulation

S2: Soap, Positive Manipulation

S3: Soap, Negative Manipulation

This data was saved and imported into SPSS Statistical Software for further analysis. In SPSS, two groups called EggCondition (E1, E2, E3) and SoapCondition (S1, S2, S3) were created to reflect the positive, negative, and no label scheme that respondents may have seen. These variable groups serve as independent variables in several analyses measures.

### Analysis Measures

To determine if consumers perceive a noticeable difference between the positive, negative and no manipulation frameworks, an Analysis of Variance (ANOVA) test was used for both the egg conditions and soap conditions. The dependent variable is LabelE1 for egg and LabelS1 for soap, which is the question asking how positive or negative the respondent perceives the message on the label. The independent variables are the condition groups for both egg and soap, namely EggCondition and SoapCondition.

To determine if consumers were motivated to purchase the product with a negative-framed ecolabel more than when using a positive-framed or no-framed ecolabel, an ANOVA test was used to analyze the statistically significant difference among means of purchase intent across positive, negative, and no conditions for both egg and soap products. The dependent variable is PurchaseE1 for egg and PurchaseS1 for soap, which references the question asking how likely the respondent is to purchase the egg or soap product. The independent variables are the condition groups for both egg and soap, namely EggCondition and SoapCondition.

In addition, to determine if consumers will trust the product more with a positive-framed ecolabel than when using the negative-framed or no-framed ecolabel, ANOVA testing will be used. The dependent variable is TrustE1 for egg and TrustS1 for soap, which references the question asking how much the respondent trusts the brand of egg or soap. The independent variables are again EggCondition for egg and SoapCondition for soap.

Lastly to determine if consumers will like the product more with a positive-framed ecolabel than when using the negative-framed or no-framed ecolabel, ANOVA testing will again be used to determine if there is a statistically significant difference among means of overall liking across product conditions. The dependent variable is OverallE1 for egg and OverallS1 for soap, which references the question asking what is the overall evaluation of the egg and soap product. The independent variables are the groups EggCondition for egg and SoapCondition for soap.

### Limitations

I foresee there will be some limitations to my study. One limitation will be the inability to control respondent environment when taking the online Qualtrics survey. This could diminish the effectiveness of both the purchase environment and labeling schemes of the products. A second limitation could be other factors (besides the different product categories and labeling schemes) that influence a consumer's trust, liking, and willingness to pay for a product that cannot be identified in my model. For instance, a consumer might distrust a food item for reasons unknown to the researcher such as past experiences or personal values. A third limitation is the lack of significant difference between how respondents perceive the positive, negative, and no framework ecolabels. For example, if respondents do not perceive the negative ecolabel as displaying a negative message about the product, the study cannot determine the effectiveness of the label scheme in motivating purchase intent, trust, or overall liking. A manipulation check will be run in order to ensure that respondents can perceive a noticeable difference between the label claims, in order to diminish the effect of this limitation. A fourth limitation is that respondents do not understand the implications behind the respective ecolabels. It is possible that "cage-free" and "sustainably-harvested" do not convey the intended message because the respondent lacks the required knowledge on the topic. Because of this and perhaps a lack of care

towards the message, respondents might not perceive the negative ecolabel as a loss as intended. In an effort to mitigate these limitations my research will do the best it can to control all aspects of the survey environment and check to ensure the manipulations are perceived correctly.

## RESULTS

### Assumption Check

Before the results for each hypothesis can be made, various assumptions checks must be confirmed. Missing data was already checked and cleaned out in the data cleaning stage. In addition, there must not be outliers in the data set. In SPSS, the data is checked for outliers based on if responses exceeded plus or minus 4 standard deviations from the mean, as a common rule of thumb states that for sample sizes greater than 80 respondents any value outside of 3-4 standard deviations of the mean must be an outlier. Based on this measure, no significant outliers exist in the data. Lastly, the data must be normally distributed for all metric variables, or those asked on a continuous scale. A Tests of Normality table was generated that displayed the significance level of each variable under the Kolmogorov-Smirnov test (Appendix 3). The test resulted in p-values of 0.000 for all variables other than one (purchase involvement of soap), which is less than the alpha of 0.05. Because of this, the null hypothesis (which states that the variables are normal) must be rejected, and it is concluded that the variables are not normal. However, because of the central limit theorem, in cases where the sample size is greater than 30 the failed test of normality does not necessarily challenge the integrity of the data. Because our sample size is larger than 30, the non-normal variables are not a concern in this analysis.

### Hypothesis 1:

*H1 egg: Consumers perceive a noticeable difference between the positive, negative and no manipulation framework for egg ecolabels.*

An ANOVA is used to determine if the means for EggLabel (how positive or negative this product stresses the implications of purchasing cage-free eggs) are significant enough across respondents to assume something about the population. The dependent variable is the 1 to 5 scale question regarding this perception (EggLabel), with 1 being extremely negative and 5 being extremely positive. The independent variables are the various egg conditions (EggCondition) where 1 = no condition, 2 = positive condition, and 3 = negative condition. First, the “F-stat” determines if at least two means differ. The ANOVA results show that the model is significant ( $F (2,87) = 4.216, p=.018$ ) at an alpha level of 0.05.

<b>ANOVA</b>					
LabelE1					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.289	2	4.144	4.216	.018
Within Groups	85.533	87	.983		
Total	93.822	89			

In specific, when looking at the homogeneous subsets table to see where at least two means differ, it can be concluded that there is a noticeable difference on how respondents perceived the non-framed label and the negative label. However, respondents perceived the positive label as statistically similar to both the non-framed label and the negative label. We must reject the null hypothesis and conclude that consumers do perceive a noticeable difference between the egg conditions, but only between the non-label and negative label.

## Homogeneous Subsets

**LabelE1**

Tukey HSD<sup>a</sup>

EggCondition	N	Subset for alpha = 0.05	
		1	2
3	30	2.73	
2	30	3.30	3.30
1	30		3.43
Sig.		.075	.861

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 30.000.

*H1 soap: Consumers perceive a noticeable difference between the positive, negative and no manipulation framework for soap ecolabels.*

An ANOVA is used to determine if the means for SoapLabel (how positive or negative this product stresses the implications of purchasing sustainably-harvested soap) are significant enough across respondents to assume something about the population. The dependent variable is the 1 to 5 scale question regarding this perception (SoapLabel), with 1 being extremely negative and 5 being extremely positive. The independent variables are the various soap conditions (SoapCondition) where 1 = no condition, 2 = positive condition, and 3 = negative condition. First, the “F-stat” determines if at least two means differ. The ANOVA results show that the model is *not* significant ( $F(2,87) = 0.458$ ,  $p=.634$ ) at an alpha level of 0.05.

## ANOVA

Labels1

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.162	2	.581	.458	.634
Within Groups	110.493	87	1.270		
Total	111.656	89			

In specific, when looking at the homogeneous subsets table to see where at least two means differ, it can be concluded that there is no noticeable difference on how respondents perceived the positive, negative, and soap labels for soap conditions. We must fail to reject the null hypothesis and conclude that consumers do not perceive a noticeable difference between the soap conditions.

### **Homogeneous Subsets**

**LabelS1**

Tukey HSD<sup>a,b</sup>

SoapCondition	N	Subset for
		alpha = 0.05
2	31	3.00
1	30	3.10
3	29	3.28
Sig.		.612

Means for groups in homogeneous subsets  
are displayed.

### **Hypothesis 2:**

*H2: a negative ecolabel will lead to a higher purchase intent than a positive or no label.*

An ANOVA test was generated in SPSS to determine if there was a statistical difference in purchase intent between egg conditions and soap conditions. The dependent variable was purchase intent (how likely would you be to purchase this carton of eggs/bar of soap) with 1 = extremely unlikely and 5 = extremely likely. The independent variables are the various conditions (EggCondition and SoapCondition) where 1 = no condition, 2 = positive condition, and 3 = negative condition.

**ANOVA**

PurchaseE1

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.889	2	1.944	1.514	.226
Within Groups	111.767	87	1.285		
Total	115.656	89			

For egg conditions, the ANOVA results showed the model is not significant ( $F(2, 87) = 1.514, p=.226$ ) at an alpha level of 0.05. Thus, we must fail to reject the null hypothesis and conclude that there is no statistical difference in purchase intent between egg conditions. This means that all egg conditions can be treated the same when understanding what motivates a consumer to purchase egg products, and no one egg condition influences a consumer's willingness to purchase more than the others. The initial hypothesis must be rejected in regards to egg conditions.

**ANOVA**

PurchaseS1

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	19.472	2	9.736	7.127	.001
Within Groups	118.850	87	1.366		
Total	138.322	89			

For soap conditions, the ANOVA results showed the model is significant ( $F(2, 87) = 7.127, p=.001$ ) at an alpha level of 0.05. Thus, we must reject the null hypothesis and conclude that there is a statistical difference in purchase intent between soap conditions.

**PurchaseS1**Tukey HSD<sup>a,b</sup>

SoapCondition	N	Subset for alpha = 0.05	
		1	2
3	29	2.14	
1	30	2.53	
2	31		3.26
Sig.		.394	1.000

Means for groups in homogeneous subsets are displayed.

When looking at the homogeneous subset results for soap conditions it can be determined that the SoapCondition 2, or the positive ecolabel, is statistically different than both the negative and no ecolabel conditions. Thus, it can be concluded that for soap conditions, a positive ecolabel leads to a higher purchase intent than a negative or no label, thus rejecting the initial hypothesis.

**Hypothesis 3:**

*H3: A positive frame will lead to a higher trust of the product than a negative or no frame.*

An ANOVA test was generated in SPSS to determine if there was a statistical difference in trust between egg conditions and soap conditions. The dependent variable is trust (how much do you trust this brand) with 1 = none at all and 5 = a great deal. The independent variables are the various conditions (EggCondition and SoapCondition) where 1 = no condition, 2 = positive condition, and 3 = negative condition.

**ANOVA**

TrustE1

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.089	2	.544	.818	.445
Within Groups	57.900	87	.666		
Total	58.989	89			

Again for egg conditions, the ANOVA results showed the model is not significant ( $F(2, 87) = .818$ ,  $p=.445$ ) at an alpha level of 0.05. Thus, we must fail to reject the null

hypothesis and conclude that there is no statistical difference in trust between egg conditions. This means that all egg conditions can be treated the same when understanding what motivates a consumer to trust egg products, and no one egg condition influences consumer trust more than the others. The initial hypothesis for egg conditions must be rejected.

### ANOVA

TrustS1

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	27.378	2	13.689	16.260	.000
Within Groups	73.244	87	.842		
Total	100.622	89			

For soap conditions, the ANOVA results showed the model is significant ( $F(2, 87) = 16.260, p=.000$ ) at an alpha level of 0.05. Thus, we must reject the null hypothesis and conclude that there is a statistical difference in trust between soap conditions.

### TrustS1

Tukey HSD<sup>a,b</sup>

SoapCondition	N	Subset for alpha = 0.05	
		1	2
3	29	2.10	
1	30	2.40	
2	31		3.39
Sig.		.427	1.000

Means for groups in homogeneous subsets are displayed.

When looking at the homogeneous subset results for soap conditions it can be determined that the SoapCondition 2, or the positive ecolabel, is statistically different than both the negative and no ecolabel conditions. Thus, the initial hypothesis is supported and it can be concluded that for soap conditions, a positive ecolabel leads to higher trust than do the negative and no ecolabels.

**Hypothesis 4:**

*H4: A positive frame will lead to a higher overall evaluation of the product than a negative or no frame.*

An ANOVA test was generated in SPSS to determine if there was a statistical difference in overall evaluation between egg conditions and soap conditions. The dependent variable is overall evaluation (what is your overall evaluation of this carton of eggs/bar of soap) with 1 = terrible and 5 = excellent. The independent variables are the various conditions (EggCondition and SoapCondition) where 1 = no condition, 2 = positive condition, and 3 = negative condition.

**ANOVA**

OverallE1					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.689	2	2.844	4.209	.018
Within Groups	58.800	87	.676		
Total	64.489	89			

For egg conditions, the ANOVA results show the model is significant ( $F(2, 87) = 4.209$ ,  $p=.018$ ) at an alpha level of 0.05. Thus, we must reject the null hypothesis and conclude that there is statistical difference in overall evaluation between soap conditions.

**OverallE1**Tukey HSD<sup>a</sup>

EggCondition	N	Subset for alpha = 0.05	
		1	2
1	30	3.33	
3	30	3.33	
2	30		3.87
Sig.		1.000	1.000

Means for groups in homogeneous subsets are displayed.

When looking at the homogeneous subset results for egg conditions it can be determined that the EggCondition 2, or the positive ecolabel, is statistically different than both the negative and no ecolabel conditions. Thus, the initial hypothesis is supported and it can be concluded that for egg conditions, a positive ecolabel influences overall evaluation more than both negative and no ecolabels.

### ANOVA

OverallS1

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	24.953	2	12.477	16.094	.000
Within Groups	67.447	87	.775		
Total	92.400	89			

For soap conditions, the ANOVA results show the model is significant ( $F(2, 87) = 16.094, p=.000$ ) at an alpha level of 0.05. Thus, we reject the null hypothesis and conclude that there is a significance difference among soap conditions when influencing overall evaluation.

### OverallS1

Tukey HSD<sup>a,b</sup>

SoapCondition	N	Subset for alpha = 0.05		
		1	2	3
3	29	2.52		
1	30		3.23	
2	31			3.81
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

When looking at the homogeneous subsets table for soap conditions it can be determined that a positive ecolabel (SoapCondition 2) influences overall evaluation more than both a negative and no ecolabel. In addition, no ecolabel (SoapCondition 1) influences overall evaluation more than a negative ecolabel. This result shows that a negative ecolabel leads to a significantly worse overall evaluation of the product than either no ecolabel or

positive ecolabel. Ultimately, the initial hypothesis can be supported that a positive ecolabel leads to a higher overall evaluation of the label than a negative or no label.

## FINDINGS

The first hypothesis that respondents are able to differentiate between the different ecolabels – positive, negative, and no label – is rejected in regards to the soap conditions but accepted in regards to egg conditions. There is a noticeable difference on how respondents perceived the non-framed label and the negative label when it comes to egg conditions. However, respondents perceived the positive label as statistically similar to both the non-framed label and the negative label. With soap conditions, however, there is no statistical difference between negative, positive, and non-framed labels. This means that the manipulations of the labels as created by the product packages (Appendix 1) are not effective as intended, and respondents do not perceive the difference across the label frameworks.

The second hypothesis that negative ecolabels will influence a purchase intent more than both positive and no ecolabels is rejected after performing the analysis. Overall findings suggest that negative ecolabels (as created in this research) do not influence purchase intent over a positive ecolabel or no ecolabel in any significant way. What is further, only the soap's positive ecolabel influences purchase intent more than a soap's negative and no label, while there is no difference across egg conditions for purchase intent.

The third hypothesis that positive ecolabels will influence consumer trust more than both negative and no ecolabels can be accepted when applied to the soap product but rejected when applied to the egg product. While a soap's positive ecolabel influences trust more than a soap's negative and no ecolabel, there is no difference across egg conditions for trust.

The fourth hypothesis that positive ecolabels will influence consumer overall evaluation more than both negative and no ecolabels can be accepted when applied to both

egg and soap products. For egg products, a positive label influences overall likeness more than both the negative and no ecolabel with no statistical difference between the negative and no ecolabel. For soap products, however, a positive label again influences overall likeness the most, and a no ecolabel framework influences overall likeness more than a negative ecolabel. This suggests that for a soap product, consumers have a preference towards products that don't have any ecolabel over one that has a negative ecolabel framework.

Further analysis found that overall purchase involvement for egg was lower than for soap, with the average respondent purchasing eggs 1-2 times a month but purchasing soap less than once a month. This result may suggest why there is a difference across purchase intent and trust of soap products and egg products. Because there is a lower purchase involvement among egg buyers than there is among soap buyers, less time is spent reading the egg labels and thus the ecolabel description is less powerful in influencing a consumer purchase.

## IMPLICATIONS

This study's key hypothesis, that a negative ecolabel could motivate a consumer purchase more than a positive and no ecolabel, is based around the Prospect Theory that consumers are loss averse and will be motivated to make a purchase decision in the hopes of avoiding a loss. In this study's case, those losses are purchasing an egg product that is caged and a soap product that is non-sustainably harvested. Because these losses do not directly impact the consumer like personal health or money does, they are not as powerful in influencing a decision. Further research should explore ways other than a loss-averse strategy that an ecolabel can influence consumer purchase behavior. In addition, further research should go into making sure the ecolabel manipulations used in the study are perceived the way that they are intended, as this study failed to do so.

It is clear that ecolabels in the marketplace are profuse and inconsistent, leading to consumer distrust and confusion. For managers, this can cause inefficiency when creating a message that does not create the desired result. For government officials and policy makers, more stringent certifications should go into ecolabel claims; standardized practices should not only be encouraged but enforced if companies want to make an ecolabel claim on its package. For consumers, awareness of ecolabel messages, claims, and certification source are necessary in order to have transparency and avoid confusion.

## CONCLUSION

This study's key aim was to identify if a negative ecolabel could influence a purchase intent more than a positive or no frame. The purpose of this is because in today's marketplace, there is an abundance of ecolabels currently but most of these create a positive message about the benefits of purchasing the eco-friendly product. Few product packages exist today that use a negative label in order to influence consumer purchase. While studies in the past have shown that a positive label increases overall consumer evaluation and trust with a brand, no study has tested to see if a negative frame influences consumer purchase intent more than a positive frame or no frame. Although this study did not prove that a negative label can influence purchase intent more than a positive label, it did show that a positive label influences purchase intent, trust, and overall evaluation more especially in regards to soap products. For future studies, more research should go into the way that negative and positive messages are framed in order to maximize the effects of the message. In addition, research should continue to shed light on how best to standardize ecolabels and the messages they convey. While differing consumer care, involvement, and understanding of the message cause results to vary among respondents, in general it is clear that consumers care about the environment and will purchase environmentally friendly products if they perceive the gains to be worth it.

## APPENDIX I: Ecolabels

### Egg No Manipulation



*Purely Delicious: our eggs are a wholesome and delicious source of protein from eggs laid on our family farms.*

### Egg Positive Manipulation



*Purely Delicious: our eggs are a wholesome and delicious source of protein from eggs laid on our family farms.*

*Our Hens are 100% Cage-Free.  
By purchasing cage-free eggs, you are  
promoting farms that raise hens in uncaged  
environments, free to walk, nest, and  
engage in other natural behaviors.*

### Egg Negative Manipulation



Purely Delicious: our eggs are a wholesome and delicious source of protein from eggs laid on our family farms.

Our Hens are 0% Caged.  
By purchasing caged eggs, you are promoting farms that raise hens in caged environments, restricted from walking, nesting, or engaging in other natural behaviors.

### Soap No Manipulation



This bar is refreshingly therapeutic, soothing sensitive skin while leaving your skin clean and silky smooth. Use for face or body.

### Soap Positive Manipulation



This bar is refreshingly therapeutic, soothing sensitive skin while leaving your skin clean and silky smooth. Use for face or body.

This soap is made using 100% sustainably harvested palm oil.

*By purchasing soap that has been sustainably harvested, you are promoting the safeguarding of plant and animal biodiversity, the care for local communities, and the soil's productivity.*

### Soap Negative Manipulation



This bar is refreshingly therapeutic, soothing sensitive skin while leaving your skin clean and silky smooth. Use for face or body.

This soap is made using 0% non-sustainably harvested palm oil.

*By purchasing soap that has been non-sustainably harvested, you are promoting the destruction of plant and animal biodiversity, the neglect for local communities, and the soil's unproductivity.*

### Appendix 2: Survey Questions

Q1.1 Consent Form I understand that this research involves asking students to respond to a questionnaire. I will be provided with information regarding two grocery products and then will be asked questions based on these products. This task will take me, on average, 7-10 minutes to complete. I have the opportunity to telephone the researcher with any questions that I may have. The major benefits I will receive from participation in this research are increased awareness of labeling strategy and increased familiarity with marketing research methods. I understand that my answers will be held strictly confidential. Responses will only be presented in aggregate form. This research is under the supervision of Dr. Susan Kleiser. Dr. Kleiser's office is room 294 Tandy Hall at Texas Christian University. Her phone number is (817) 257-5485. Please feel free to contact Dr. Kleiser if you have any questions. I hereby consent to participate in this research and understand the above procedure.

- Yes (1)
- No (2)

Q2.1 Assume you are going shopping at a convenience store for a carton of eggs. You have narrowed your choices down to products that are fresh, healthy, and around \$2.50. You read the following on one package:

Q2.2 What is your overall evaluation of this carton of eggs?

- Terrible (1)
- Poor (2)
- Average (3)
- Good (4)
- Excellent (5)

Q2.3 How much do you trust this brand of eggs?

- None at all (1)
- A little (2)
- A moderate amount (3)
- A lot (4)
- A great deal (5)

Q2.4 How likely are you to purchase this carton of eggs?

- Extremely unlikely (1)
- Somewhat unlikely (2)
- Neither likely nor unlikely (3)
- Somewhat likely (4)
- Extremely likely (5)

Q2.5 The \$2.50 price for this carton of eggs is fair.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q2.6 I am willing to pay \_ (in \$) more for this product over the \$2.50 listed price.

\_\_\_\_\_ \$0 (1)

Q2.7 How important is the information on the label in your decision to purchase this product?

- Not at all important (1)
- Slightly important (2)
- Moderately important (3)
- Very important (4)
- Extremely important (5)

Q2.8 Please indicate how positive or negative this product stresses the implications of purchasing cage-free eggs (that is, eggs harvested from chickens that are raised in a cage-free environment):

- Extremely negative (1)
- Somewhat negative (2)
- Neither positive nor negative (3)
- Somewhat positive (4)
- Extremely positive (5)

Q2.9 Please indicate how much you agree with the following statement: This product is eco-friendly.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q3.1 Assume you are going shopping at a convenience store for a carton of eggs. You have narrowed your choices down to products that are fresh, healthy, and around \$2.50. You read the following on one package:

Q3.2 What is your overall evaluation of this carton of eggs?

- Terrible (1)
- Poor (2)
- Average (3)
- Good (4)
- Excellent (5)

Q3.3 How much do you trust this brand of eggs?

- None at all (1)
- A little (2)
- A moderate amount (3)
- A lot (4)
- A great deal (5)

Q3.4 How likely would you be to purchase this carton of eggs?

- Extremely unlikely (1)
- Somewhat unlikely (2)
- Neither likely nor unlikely (3)
- Somewhat likely (4)
- Extremely likely (5)

Q3.5 I am willing to pay a higher price for this product than for the \$2.50 price listed.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q3.6 I am willing to pay \_ (in \$) more for this product over the \$2.50 listed price.

\_\_\_\_\_ \$0 (1)

Q3.7 How important is the information on the label in your decision to purchase this product?

- Not at all important (1)
- Slightly important (2)
- Moderately important (3)
- Very important (4)
- Extremely important (5)

Q3.8 Please indicate how positive or negative this product stresses the implications of purchasing cage-free eggs (that is, eggs harvested from chickens that are raised in a cage-free environment):

- Extremely negative (1)
- Somewhat negative (2)
- Neither positive nor negative (3)
- Somewhat positive (4)
- Extremely positive (5)

Q3.9 Please indicate how much you agree with the following statement: This product is eco-friendly.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q4.1 Assume you are going shopping at a convenience store for a carton of eggs. You have narrowed your choices down to products that are fresh, healthy, and around \$2.50. You read the following on one package:

Q4.2 What is your overall evaluation of this carton of eggs?

- Terrible (1)
- Poor (2)
- Average (3)
- Good (4)
- Excellent (5)

Q4.3 How much do you trust this brand of eggs?

- None at all (1)
- A little (2)
- A moderate amount (3)
- A lot (4)
- A great deal (5)

Q4.4 How likely would you be to purchase this carton of eggs?

- Extremely unlikely (1)
- Somewhat unlikely (2)
- Neither likely nor unlikely (3)
- Somewhat likely (4)
- Extremely likely (5)

Q4.5 I am willing to pay a higher price for this product than for the \$2.50 price listed.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q4.6 I am willing to pay \_ (in \$) more for this product over the \$2.50 price listed.

\_\_\_\_\_ \$0 (1)

Q4.7 How important is the information on the label in your decision to purchase this product?

- Not at all important (1)
- Slightly important (2)
- Moderately important (3)
- Very important (4)
- Extremely important (5)

Q4.8 Please indicate how positive or negative this product stresses the implications of purchasing cage-free eggs (that is, eggs harvested from chickens that are raised in a cage-free environment):

- Extremely negative (1)
- Somewhat negative (2)
- Neither positive nor negative (3)
- Somewhat positive (4)
- Extremely positive (5)

Q4.9 Please indicate how much you agree with the following statement: This product is eco-friendly.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q5.1 Assume you are going shopping at a convenience store for a bar of soap. You have narrowed your choices down to products that are cleansing, healthy, and around \$2.50. You read the following on one package:

Q5.2 What is your overall evaluation of this bar of soap?

- Terrible (1)
- Poor (2)
- Average (3)
- Good (4)
- Excellent (5)

Q5.3 How much do you trust this brand of soap?

- None at all (1)
- A little (2)
- A moderate amount (3)
- A lot (4)
- A great deal (5)

Q5.4 How likely are you to purchase this bar of soap?

- Extremely unlikely (1)
- Somewhat unlikely (2)
- Neither likely nor unlikely (3)
- Somewhat likely (4)
- Extremely likely (5)

Q5.5 I am willing to pay a higher price for this product than the \$2.50 price listed.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q5.6 I am willing to pay \_ (in \$) more for this product over the \$2.50 price listed.

\_\_\_\_\_ \$0 (1)

Q5.7 How important is the information on the label in your decision to purchase this product?

- Not at all important (1)
- Slightly important (2)
- Moderately important (3)
- Very important (4)
- Extremely important (5)

Q5.8 Please indicate how positive or negative this product stresses the implications of purchasing sustainably harvested soap (that is, soap made from ingredients like palm oil that have been harvested from the earth in a sustainable, non-damaging way).

- Extremely negative (1)
- Somewhat negative (2)
- Neither positive nor negative (3)
- Somewhat positive (4)
- Extremely positive (5)

Q5.9 Please indicate how much you agree with the following statement: This product is eco-friendly.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q6.1 Assume you are going shopping at a convenience store for a bar of soap. You have narrowed your choices down to products that are cleansing, healthy, and around \$2.50. You read the following on one package:

Q6.2 What is your overall evaluation of this bar of soap?

- Terrible (1)
- Poor (2)
- Average (3)
- Good (4)
- Excellent (5)

Q6.3 How much do you trust this brand of soap?

- None at all (1)
- A little (2)
- A moderate amount (3)
- A lot (4)
- A great deal (5)

Q6.4 How likely are you to purchase this bar of soap?

- Extremely unlikely (1)
- Somewhat unlikely (2)
- Neither likely nor unlikely (3)
- Somewhat likely (4)
- Extremely likely (5)

Q6.5 I am willing to pay a higher price for this product than the \$2.50 priced listed.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q6.6 I am willing to pay \_ (in \$) more for this product over the \$2.50 price listed.

\_\_\_\_\_ \$0 (1)

Q6.7 How important is the information on the label in your decision to purchase this product?

- Not at all important (1)
- Slightly important (2)
- Moderately important (3)
- Very important (4)
- Extremely important (5)

Q6.8 Please indicate how positive or negative this product stresses the implications of purchasing sustainably harvested soap (that is, soap made from ingredients like palm oil that have been harvested from the earth in a sustainable, non-damaging way):

- Extremely negative (1)
- Somewhat negative (2)
- Neither positive nor negative (3)
- Somewhat positive (4)
- Extremely positive (5)

Q6.9 Please indicate how much you agree with the following statement: This product is eco-friendly.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q7.1 Assume you are going shopping at a convenience store for a bar of soap. You have narrowed your choices down to products that are cleansing, healthy, and around \$2.50. You read the following on one package:

Q7.2 What is your overall evaluation of this bar of soap?

- Terrible (1)
- Poor (2)
- Average (3)
- Good (4)
- Excellent (5)

Q7.3 How much do you trust this brand of soap?

- None at all (1)
- A little (2)
- A moderate amount (3)
- A lot (4)
- A great deal (5)

Q7.4 How likely are you to purchase this bar of soap?

- Extremely unlikely (1)
- Somewhat unlikely (2)
- Neither likely nor unlikely (3)
- Somewhat likely (4)
- Extremely likely (5)

Q7.5 I am willing to pay a higher price for this product than for the \$2.50 price listed.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q7.6 I am willing to pay \_ (in \$) more for this product over the \$2.50 price listed.

\_\_\_\_\_ \$0 (1)

Q7.7 How important is the information on the label in your decision to purchase this product?

- Not at all important (1)
- Slightly important (2)
- Moderately important (3)
- Very important (4)
- Extremely important (5)

Q7.8 Please indicate how positive or negative this product stresses the implications of purchasing sustainably harvested soap (that is, soap made from ingredients like palm oil that have been harvested from the earth in a sustainable, non-damaging way):

- Extremely negative (1)
- Somewhat negative (2)
- Neither positive nor negative (3)
- Somewhat positive (4)
- Extremely positive (5)

Q7.9 Please indicate how much you agree with the following statement: This product is eco-friendly.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q8.1 How often do you go shopping for groceries or personal care items?

- More than once a week (1)
- 3-4 times a month (2)
- 1-2 times a month (3)
- Less than once a month (4)
- Never (5)

Q8.2 How often do you go shopping for eggs?

- More than once a week (1)
- 3-4 times a month (2)
- 1-2 times a month (3)
- Less than once a month (4)
- Never (5)

Q8.3 Please rate the process of choosing a brand of eggs on each of the following scales of 1 to 5. Please base your rating on your most recent choice of a brand of eggs.

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)
Very Unimportant Decision:Very Important Decision (1)	<input type="radio"/>				
Decision Requires Little Thought:Decision Requires a Lot of Thought (2)	<input type="radio"/>				
Little to Lose If You Choose the Wrong Brand:A Lot to Lose If You Choose the Wrong Brand (3)	<input type="radio"/>				

Q8.4 How often do you go shopping for soap?

- More than once a week (1)
- 3-4 times a month (2)
- 1-2 times a month (3)
- Less than once a month (4)
- Never (5)

Q8.5 Please rate the process of choosing a brand of soap on each of the following scales of 1 to 5. Please base your rating on your most recent choice of a brand of soap.

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)
Very Unimportant Decision:Very Important Decision (1)	<input type="radio"/>				
Decision Requires Little Thought:Decision Requires a Lot of Thought (2)	<input type="radio"/>				
Little to Lose If You Choose the Wrong Brand:A Lot to Lose If You Choose the Wrong Brand (3)	<input type="radio"/>				

Q9.1 I am concerned about the environment.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q9.2 The quality of the environment affects the quality of my life.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q9.3 My actions when purchasing products impact the environment.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q9.4 When I have a choice between two equal products, I purchase the one less harmful to the environment.

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q9.5 I have switched egg products for ecological reasons (such as cage-free, meaning the eggs are harvested from chickens that are raised in a cage-free environment).

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q9.6 I have switched soap products for ecological reasons (such as sustainably harvested meaning the soap is made from ingredients like palm oil that have been harvested from the earth in a sustainable, non-damaging way).

- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q10.1 What is your sex?

- Male (1)
- Female (2)
- Other (please specify) (3) \_\_\_\_\_
- I prefer not to answer (4)

Q10.2 What grade are you?

- Freshman (1)
- Sophomore (2)
- Junior (3)
- Senior (4)
- Graduate Student (5)

Q10.3 Describe your current living situation:

- On Campus Dorm or Residence Hall (1)
- Greek Housing (2)
- Off Campus Apartment (3)
- Off Campus Housing (4)
- Other (5) \_\_\_\_\_

Q10.4 Please select which course/section you are currently in with Dr. Kleiser, and fill in your name. If you are not in one of these courses/sections, choose "Not Applicable."

- Marketing Research 8:00am (1) \_\_\_\_\_
- Marketing Research 9:30am (2) \_\_\_\_\_
- Ethics 11:00am (3) \_\_\_\_\_
- Ethics 12:30am (4) \_\_\_\_\_
- Not Applicable (5)

## REFERENCES

- "About Greenwashing | Greenwashing Index." *Greenwashing Index*. EnviroMedia Social Marketing, 2016. Web. 15 Nov. 2016.
- Anderson, Mark W. "New Ecological Paradigm (NEP) Scale." *The Berkshire Encyclopedia for Sustainability*. Berkshire Publishing Group, 2012. Web. 11 Feb. 2017.
- "All Ecolabels in United States | Ecolabel Index." *All Ecolabels in United States*. Ecolabel Index, 2016. Web. 15 Nov. 2016.
- Atkinson, Lucy. "'Wild West' of Eco-labels: Sustainability Claims Are Confusing Consumers." *The Guardian*. Guardian News and Media, 04 July 2014. Web. 15 Nov. 2016.
- Atkinson, Lucy, and Sonny Rosenthal. "Journal of Advertising." *Signaling the Green Sell: The Influence of Eco-Label Source, Argument Specificity, and Product Involvement on Consumer Trust* (2014): 35-45. Web. 15 Nov. 2016.
- Brécard D. Consumer confusion over the profusion of eco-labels: Lessons from a double differentiation model. *Resource & Energy Economics* [serial online]. August 2014; 37:64-84. Available from: Business Source Complete, Ipswich, MA. Accessed September 20, 2016.
- "Cage-Free vs. Battery-Cage Eggs." *The Humane Society of the United States*. N.p., n.d. Web. 10 Mar. 2017.
- Cho, Yoon-Na. *Different Shades of Green Consciousness: The Interplay of Sustainability Labeling and Environmental Impact on Product Evaluations*. Dordrecht, Springer Science+Business Media, 9 Feb. 2014.

- Delmas, Magali, Nicholas Nairn-Birch, and Michaela Balzarova. *Lost in a Sea of Green: Navigating the Eco-label Labyrinth*. Rep. UCLA, 2012. Web. 15 Nov. 2016.
- "EU Ecolabel - Environment - European Commission." *EU Ecolabel - Environment - European Commission*. European Commision, 27 Oct. 2016. Web. 15 Nov. 2016.
- Grankvist, Gunne. *Negative or Positive Eco-Labels?* Thesis. University of Trollhättan/Uddevalla, 2004. N.p.: n.p., n.d. *Association for Consumer Research*. 2017. Web. 10 May 2017.
- "Green Generation: Millennials Say Sustainability Is a Shopping Priority." *Nielson*. The Nielson Company, 2016. Web. 15 Nov. 2016.
- Gutierrez, A. A., & Seva, R. R. (2016). Affective Responses in the Purchase of Consumer Eco Products. *DLSU Business & Economics Review*, 25(2), 129-146.
- International Organization for Standardization. ISO Central Secretariat. *Environmental Labels and Declarations: How ISO Standards Help*. ISO.org. ISO, 2012. Web. 15 Nov. 2016.
- KAHNEMAN, Daniel, and Amos TVERSKY, 1979. Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, 47(2), 263–292.
- "Look for the Eco Label." *Environmental Magazine* 20 July 2004: n. pag. Web. 15 Nov. 2016.
- Martin, Diane, and John Schouten. *Sustainable Marketing*. Upper Saddle River, NJ: Pearson Prentice Hall, 2012. Print.
- Proliferation of Food Eco-labels to Continue*. Rep. Organic Monitor, 2013. Web. 15 Nov. 2016.
- Schrama, Nanda. *Positive versus Negative Eco - Labelling; Will Negative Labels Change Consumer Behaviour*. Rep. N.p.: Wageningen U, 2010. Print.

- Stokes, A., & M. Turri, A. (2015). Consumer perceptions of carbon labeling in print advertising: Hype or effective communication strategy?. *Journal Of Marketing Communications*, 21(4), 300-315.
- "Sustainable Palm Oil." *RSPO - Roundtable on Sustainable Palm Oil*. N.p., 2017. Web. 10 Mar. 2017.
- Teirlinck, Marrit. "Negative versus Positive." Thesis. University of Amsterdam, 2013. Web.
- Vermeer, Dan, PhD. *An Overview of Ecolabels and Sustainability Certifications in the Global Marketplace*. Rep. 10th ed. Vol. 2010. N.p.: Duke U, 2010. Print. Ser. 1.
- "What Is Credence Good? Definition and Meaning." *BusinessDictionary.com*. WebFinance Inc., 2016. Web. 15 Nov. 2016.
- "2015 Cone Communications/Ebiquity Global CSR Study." *Cone Communications | Cone | Cone PR | Cone Inc | PR Agency | Boston | NYC*. N.p., 2015. Web. 15 Nov. 2016.