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The University of Southern Mississippi

Green Marketing Effects on the Consumer

by

Alice Townsend

A Thesis
Submitted to the Honors College of
The University of Southern Mississippi
in Partial Fulfillment
of the Requirements of the Degree of
Bachelor of Business Administration
in the Department of Management and International Business

May 2017

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Abstract

The purpose of this study is to gauge the influence of green marketing efforts directed at the consumer. Green marketing is a marketing strategy used by businesses that emphasizes the environmental improvements a company has implemented. Green marketing is not a new concept but it is one that is still relevant to consumers and companies alike as concern for the environment continues to grow. This particular study looks at a relatively new frontier for green marketing in how it appears on social media by testing brand perception and purchase intent of an environmentally conscientious social media post by a consumer brand. This study also aims to determine consumer awareness of greenwashing when it appears in an advertisement. Greenwashing is the misrepresentation or embellishment of a business' environmental efforts. Data for this research was gathered via a Qualtrics survey. An experimental design (with ANOVA and an independent samples t-test) was used to test the proposed hypotheses regarding green marketing on social media and greenwashing of advertisements.

Keywords: Green marketing, greenwashing, perception, consumer behavior

Acknowledgements

Thank you to my thesis adviser Dr. Melinda McLelland for all the assistance she provided me in this project. I honestly would not have gotten this far without your help and all your answers to my countless e-mails!

And thank you to my parents as well, thank you ma for listening to all my worries and thank you father for all your proofreading and advice. Lastly, thank you to everyone at the Honors College for providing the opportunity to conduct this level of undergraduate research and also for always having free coffee available in the Honors House study room!

Table of Contents

List of Tables.....	viii
Introduction.....	1
Literature Review.....	3
Green Marketing.....	3
Greenwashing.....	7
Green Marketing on Social Media.....	10
Methodology.....	12
Analysis and Results.....	16
Discussion and Conclusion.....	22
Managerial Implications.....	27
Limitations and Future Research.....	29
Works Cited.....	31
Appendices.....	34
Appendix A: Survey.....	34
Appendix B: IRB Approval Letter.....	39
Appendix C: Demographic Information.....	40

Table of Contents Continued

Appendices.....	41
Appendix D: Control Group Advertisement.....	41
Appendix E: Non-greenwashed Advertisement.....	42
Appendix F: Greenwashed Advertisement.....	43
Appendix G: Social Media Posts.....	44

List of Tables

Table 1: Levene's Statistic.....	17
Table 2: ANOVA H_1	18
Table 3: Tukey's Test Post-Hoc Analysis.....	20
Table 4: Independent Samples Test.....	22

Introduction

Businesses utilizing green marketing as a marketing tool has become more prevalent as concern for the environment grows. Green marketing emphasizes the green efforts that a business is making (be it through using more recyclable materials in products, cutting energy use in the production process, etc.) and incorporates these “greener” practices into their marketing strategies. According to journalist Philip Kotler (2011), businesses are going to have to increase their green marketing efforts because it is no longer just a way to make a company look better in terms of selling their product to the green consumer, but it is becoming a requirement that businesses be more Earth friendly in their practices. Green marketing provides advantages for the environment and businesses alike as long as items and companies are displaying their green marketing efforts effectively and honestly. Benefits can range from expanding the firm’s resources with a line of greener products as well as appealing to a wider range of buyers, those of whom are better known as the “green consumer” (Mishra & Sharma 2014).

The purpose of this study is to identify if consumers are able to perceive the honesty (or dishonesty) present in green marketed advertisements and also to gauge consumer responsiveness to green marketing efforts when they appear on social media platforms. Thinking in terms of green marketing and how consumers perceive these advertisements is what led to the first research question for this study: *How knowledgeable are consumers when it comes to the presence of greenwashing in advertisements?* For the second portion of the study, there is a lot of information in the present literature about social media and utilizing it as a resource for marketing (e.g.,

Fulgoni, 2015; Lyon & Montgomery, 2013). However, when considering green marketing and how it is used on social media it begs the question of how are consumers responding to green marketing when it appears on an individual's social media page. This consideration is what led to the development of the second research question for this study: *How do consumers perceive green marketing methods on social media and how does this influence their buying decisions?*

Green marketing, however altruistic its' intentions might be, can sometimes be viewed with apprehension. do Paco and Reis (2012) note in their research that consumers are bombarded with numerous advertisements and marketing materials each day that it becomes difficult for the consumer to differentiate truth from falsehood in marketing materials. Consumers may only spend a moment looking at an advertisement and not fully take into consideration all of the statements at play in the advert; this being said marketers need to be honest when making green claims about their company so as to not falsely mislead potential customers (do Paco and Reis, 2012). If a company engages in making false claims about their products or services and/or how green they are, then they are committing what is known as "greenwashing." According to Delmas (2011), greenwashing can be defined as "misleading consumers about their [the firm's] environmental performance or the environmental benefits of a product or service."

With the market place becoming more connected with the online world, green marketing practices have made a transition to social media sites in order to reach out to consumers. Through marketing on social media platforms such as Facebook or Instagram, consumers can follow an advertisement through to a companies' page and

learn more information about the products and/or services they provide. In the literature review that follows this section, relevant literature to the study will be closer examined providing more information on similar research and supporting materials. Following sections in this study will include the methodology used including research design, the findings of the data which leads into the discussion of what the analysis means, implications for why the data is important to know and understand and lastly suggestions for future research.

Literature Review

For the purpose of this study, relevant research will be reviewed in the following sections in order to gain more understanding of the field of green marketing. Areas that are elaborated include: a more in-depth look at green marketing, defining and observing greenwashing, and the presence of green marketing as it appears in the social media spectrum.

Green Marketing

Green marketing is a broad concept that entails numerous areas of research. The American Marketing Association (1995), defines *green marketing* as the marketing of products which are presumed to be environmentally safe. Going green is often associated with recycling, reducing ones' waste output, and reusing. Going green in the marketing context is related to consumer buying habits and the purchase of products that use less materials and therefore produce less waste, as well as items that are manufactured with

the environment in mind (Zaharia and Zaharia, 2015). According to surveys distributed by Environmental Leader, 78% of the respondents said that while shopping they “consciously” try to buy the product that is less harmful for the environment (McClendon, 2010). In its’ efforts, green marketing is not something that goes unnoticed by consumers. A study conducted by Olsen et. al. (2014), found in their research that through the installation of greener products, in addition to green marketing measures, companies are more likely to see a positive improvement of brand attitudes amongst consumers.

Green marketing can be found in correlation with companies that run an altogether green business or with companies that want to establish more green initiatives in their workplaces. Seventh Generation, for example, is a business that produces only green and environmentally friendly products. According to the Seventh Generation website (Seventh Generation, 2016) the products of Seventh Generation range from sustainable diapers to natural laundry detergent. The chief marketing officer at Seventh Generation reports that the company has experienced growth since the company’s creation which suggests that there is a market for green products and that consumers are actually striving to make the greener purchase (Tugend, 2016). Given that there is a market for consumers actively wanting to buy green products, more companies are encouraged to tap into the green market. Target, for example, has become more sustainable in their brand Simply Balanced and planned on using more sustainable packaging in all of the products they manufacture by the end of 2016 (Target, 2014).

Consumers may choose to buy green because they feel as if they are helping the

environment. In some sense, green marketing was developed in response to negative opinions about marketing encouraging consumer overconsumption and thus promoting a wasteful society (McEachern, 2012). Research has shown that some consumers buy green for more self-motivated reasons to make themselves look better rather than actually striving to reduce one's environmental footprint (Green & Peloza, 2014). In a study conducted by Green and Peloza (2014), results show that when participants completed the responses individually, the data showed that a majority of respondents selected the "self-benefit appeals" when asked about their green purchasing habits. In related research it was found that some consumers might have honest motives for purchasing green but others buy green to satisfy their egos (Gonzalez et al., 2015).

In order for one to practice green purchasing habits they need to have access to green items and be exposed to green marketing. It has been found that consumers feel "one needs to be knowledgeable and live in the right place" in order to be an avid green shopper (Johnstone and Tan, 2014). As concern for the environment grows, so does the amount of green marketing and advertising that can be found in the marketplace. Many green marketing claims are somewhat vague and not entirely made clear to the consumer making the purchase, which makes the consumer question the validity of how green the product and the company actually are (do Paco & Reis, 2012). Firms need to be cognizant of what it is they are advertising and how their claims are being presented. A study found that consumers who are more knowledgeable and concerned with the environment will be attracted to advertisements that are clearer cut in their green claims; the opposite goes for consumers who either have a lower level of environmental concern

or lower environmental knowledge (Grimmer & Woolly, 2012).

A variable being considered in this study is purchase intent of the consumer. A study comparing an environmental advertisement and a money-saving advertisement were presented in a survey which was utilized in order to test consumer purchase intent. The study showed respondents two laundry detergent ads, one of which had language related to being environmentally conscientious while the other talked more about the cost of the product and how it was cheaper than the competitor. In this particular study purchase intent was measured across two categories, the respondents were identified in either the “low-involvement” category (as not having much concern for the environment) or the “high-involvement” category (as being environmentally concerned). Data from the study reported that high-involvement consumers with the environment are already inclined to purchase green so there was no significant change in purchase intent, however even those who were considered low-involvement in the study responded more positively to the greener advertisements and this was reflected in purchase intent as well (Schuhwerk & Lefkoff-Hagius, 1995). The overall findings of the Schuhwerk and Lefkoff-Haggius study was that regardless of one’s environmental habits, one might be more likely to respond favorably to an advertisement that has green appeal; this finding was taken into consideration in the presentation of this study, that consumers will react favorably to advertisements that contain green elements and will respond that they would change their purchasing intentions to reflect this response.

Greenwashing

Environmental awareness has increased and with it has the number of products on store shelves that are reportedly better for the environment and are marketed as such. However, it has become an issue with companies pushing their items as being green in order to gain the consumer's attention and also to build on the companies' corporate social responsibility that may lead to a business to greenwash. The term "greenwashing" refers to when a company makes claims about their products and/or firm operations to make them seem as if they are more environmentally conscientious when it is actually just a façade (Markham et al. 2014).

While it is important for green marketing to be completely honest in its claims, it is also important that the products still meet the wants and needs of the consumer. If customer satisfaction is not fully met through post-purchase of the product, then the consumer might experience a feeling that has been termed "green myopia" (Mishra and Sharma 2014). This green myopia can be reflected in findings by Schuhwerk and Lefkoff-Hagius (1995) in which consumers may feel that greener products are missing something in them which make them inferior to non-green products.

Greenwashing plays a negative role on the green market as a whole given that consumers will not trust green products in their entirety and thus will become less willing to purchase them (Delmas & Burbano, 2011). Consumers, however, are not always able to identify when greenwashing is present. A study conducted by Smith and Brower (2012) found that the average consumer will look for certain terms, such as "biodegradable," when they are deciding on whether or not to make the greener purchase.

Most shoppers will look for something to identify the product as green, be it through packaging or advertisements (Smith & Brower, 2012). Since some consumers may take more convincing on the green-ness of a product or brand, this may lead companies to embellish or exaggerate their environmental claims in order to really grasp the consumer's attention and also encourage the consumer to make a purchase.

Greenwashing misleads the customers to form false perceptions about the firm, so why would a company do this? Du (2015) states in his article that “greenization,” or falsifying green claims, benefits the firm when it comes to competition with other companies. Greenwashing is made possible when a firm exhibits poor environmental performance but at the same time they are successful in distributing that information to consumers (Delmas & Burbano, 2011). It is suggested that so much emphasis is placed on the ‘go green’ movement and the encouragement of it, but not much is done to penalize those companies who actually are greenwashing their products, claims, etc. (Siano et. al., 2017). So one might question what a customer is to do in order to make sure that the product they are purchasing really delivers on all the environmental claims that are being made. One way can be found in research posed by Lyon and Montgomery (2013) that with more corporations utilizing social media for marketing, customers are better able to identify greenwashed publicity since they can go to the businesses website and seek out the validity of the claims being made.

The Federal Trade Commission (2012) issues a regularly updated “Green Guides” that has specific rules for when a company utilizes environmental marketing, this includes the language which is used in the marketing material – verbiage in the ad must

not mislead consumers in any way and must be entirely true. Companies actually are being charged with greenwashing and can pay heavy fines for it. For example, Nice-Pak who are producers of wet wipes, have been ordered by the Federal Trade Commission to prove and back their claim of their product's ability to disintegrate when flushed making them safe for septic systems and safe for entering waterways (Federal Trade Commission, 2015). A more extreme example is the Volkswagen case in which the German car producer is being fined \$14.7 billion in allegations for greenwashing their vehicles (Federal Trade Commission, 2016).

The present literature in this area shows that greenwashing is an ongoing issue and continues to be used by companies in the marketing of their firms and products. Greenwashing still exists and is still being used in the marketing environment considering consumers are not always able to recognize its' presence (Chen & Chang, 2013). Greenwashing is not just a wrong that a company commits and then receives public outrage when claims are revealed to be false or misleading, it is an actual punishable crime that can come with heavy fees and damage the brand. This leads into the first hypothesis for this study:

H_{1a}: Greenwashing effects on consumers will be more present and identifiable to the consumer/respondent in a greenwashed advertisement than a non-greenwashed advertisement.

H_{1b}: Purchase intent will be lower for a greenwashed advertisement.

H_{1c}: Consumer attitude toward a greenwashed advertisement will be less positive.

For this study, purchase intent is defined as the level of motivation a customer has to buy a product the next time they go to make a transaction (Chang & Wildt, 1994). Also in this study, consumer attitude is operating under the definition of it is the overall opinion a consumer develops in response to a product or service (Bolton & Drew, 1991). In this case, the advertisements themselves are what the consumers in the study will be evaluating to form their opinion.

Green Marketing on Social Media

Countless research has been conducted that studies the relationship between demographic factors and consumer behavior when it comes to green consumption. The demographic areas looked at include age, gender, income, education and many other specific identifiers (e.g., Brough, 2016; Rawat, 2012; Suplico, 2009). Social media allows marketers to reach more consumers in different demographic sectors. Social media is useful in that marketers and firms can interact more with the consumer online and on social networking mediums so that they can better meet the customers' desires (Minton et al. 2012). When marketing in general is implemented successfully on social media, firms have reported that they experience a more positive firm-customer relationship which can improve the firm's revenues and profits in the long run (Kumar et. al., 2016). The spread of green marketing to social media has made it harder for companies to greenwash given that the consumer has access to seek out more information about the company which in turn motivates companies to be more careful in what environmental claims they are

making online (Lyon & Montgomery, 2013).

Social media provides a platform for firms and companies to get their names and products out to customers. Research conducted by Gonzalez et al. (2015) wrote about the “unattainable” consumer who has not been reached by the fingers of green marketing. It is also important that when a firm uses social media for their green marketing efforts that the company be aware of whom they are marketing to. The business trend company known as Mintel (2013) reports that businesses would benefit the most from targeting their online green marketing efforts on Millennials because they are more likely to use social media and have larger networks with which to spread the information.

Minton et. al. (2012) state in their research that the environmental movement, or drive for sustainability, is a practice which is fueled by social interaction making social media the perfect medium to display green marketing considering the communication aspect as well as the potential to market to diverse groups with different interests. The influence of green marketing efforts via social media on consumers is one of the points being looked at in this study which led to the formation of the following hypothesis:

H_{2a}: Green social media marketing efforts (i.e., environmental Facebook posts, environmental Tweets, etc.) have a more significant influence on product purchase intentions than non-green social media marketing efforts.

H_{2b}: Consumer attitude will be more positive toward a more environmental social media post.

In the following section, the methodology including research design and results will be presented for the testing of these hypotheses.

Methodology

Pilot Study

A pilot study was conducted to calibrate the advertisement manipulations used in the main experiment. The pilot study consisted of four advertisements that were shown to all survey participants. Two of the advertisements contained green marketing elements that were honest in the environmental claims they were making, the other two advertisements contained greenwashing elements such as exaggeration of claims. Prior to the presentation of the ads, participants were asked two questions about their level of environmental concern. The participants were then presented the four advertisements, after each advertisement participants were asked “Do you feel that the above advertisement displayed elements of greenwashing?” with simply “yes” or “no” as the responses. They were then asked to explain their reasoning for their selection. Twenty-eight responses were collected for the pilot study. Results showed that more than half of the respondents identified greenwash in all four of the advertisements. In the response section of the pilot study where participants were asked to explain their reasoning, many suggested that by simply having environmental elements at all made it seem that greenwashing was present. The pilot study led to the selection of the advertisement featuring the most identified elements of greenwash.

Experimental Design

Following the pilot study, questions were reconfigured and reformatted in order to better suit the needs of the major project. In the main study, three advertisements total were utilized to test the hypotheses as well as two social media posts. One advertisement shown represented a greenwashed advertisement, another was a non-greenwashed advertisement, and the third shown was a control group containing neither green nor greenwashed elements. Of the social media posts, one presented contained green elements, the other social media post presented did not contain any green elements. All the questions in the surveys were the same to all participants; however, the advertisements and social media posts presented rotated, with a projected quota (to maintain approximately equal group sizes for each manipulation) of 25 participants per advertisement and 38 participants per social media post. Final results of the study revealed: 73 participants for the control group, 73 participants for the non-greenwash group, and 72 participants for the greenwash group. For the social media posts: 110 participants were shown the green social media post and 108 participants were shown the non-green social media post.

The independent variable in the first experiment featured three categories (greenwashed, non-greenwashed, and a control group). The greenwashed advertisement and the non-greenwash advertisement were both from the bottled water brand Fiji. The greenwashed Fiji advertisement was identified as having elements of greenwashing in accordance by the guidelines issued by the Federal Trade Commission's Green Guides (2012). The non-greenwashed advertisement possessed no elements of green marketing

and was highlighting a different factor (health) of the water bottle for marketing purposes. The Fiji advertisements were also selected because in 2011, the water bottle company had been sued for their use of greenwash in marketing in the case titled *Ayana Hill v. Roll International Corporation and Fiji Water Company LLC* (Kewalramani & Sobelsohn, 2012). The control group was shown an advertisement from the bottled water brand Poland Springs. This particular brand was selected because it is more common in the Northern part of the country (while this study was conducted primarily with respondents from Mississippi), so the familiarity for Poland Springs was much lower with 77% of the respondents indicating they were unfamiliar with the brand. The actual advertisements used in the survey can be found in Appendices D-F.

The second experiment was used to test the second hypothesis involving social media posts. The two posts utilized for testing H₂ were Twitter posts by the hygiene company Tom's of Maine. Tom's of Maine is a more high-end brand that sells primarily greener and organic products at select stores (Tom's of Maine, 2017). One post featured the company emphasizing their toothbrushes made from recycled materials. The other non-green advertisement selected featured a simple post showcasing the brand's toothpaste for a whiter smile. These two particular posts were selected because they came from a brand that sells basic consumer products that most consumers will likely purchase. Although the brand is sold in the regional area, 67% of the survey respondents were unfamiliar with the brand Tom's of Maine. The two social media posts are shown in Appendix G.

Survey

The online survey was distributed via Qualtrics. The survey began with two questions to gauge the participant's level of environmental conscientiousness. In the following section, participants were presented one of three advertisements as previously described. The survey started with a definition of greenwashing in order to familiarize participants with the concept. Afterwards, participants were asked questions related to the advertisement. The questions for H₁ measured the dependent variables a) greenwash, b) purchase intent (Bone & Scholder, 1992), and c) consumer attitude (Lackniak & Muehling, 1993); against the independent variable of the greenwashed or non-greenwashed advertisement and the control group. Established scales from the marketing literature were used in the study. The complete survey that was presented to participants can be found in Appendix A. After responding to the greenwash question in the survey, participants were asked to explain their reasoning in order to develop a better grasp of what they identified as greenwash.

The following section of the survey measured H₂, which dealt with green social media efforts and consumers being more motivated to purchase a product based off a green social media post than a non-green social media post. For this, participants were randomly presented one of two actual Twitter posts from Tom's of Maine. One post contained green elements and the other contained no green elements. The dependent variables measured in H₂ were a) purchase intent, and b) consumer attitude, these were tested against the independent variable of the green or non-green social media post. The survey concluded by collecting

basic demographic questions from the participants.

Sample

Survey participants were issued the survey through a link posted on Facebook as well as to students through professors in the Southern Miss College of Business. Respondents for this survey were very diverse, ranging in age, gender, racial/ethnic background, and education. More detailed information depicting the sample for this survey can be found in Appendix C. The goal sample size at the start of survey collection was 75 total, to be broken down into a quota for each section. Overall, data was collected from 218 participants. This provided roughly 73 participants for each of the three advertisements and 109 participants for each of the two social media posts.

Analysis and Results H₁

Data from the survey was analyzed using SPSS. Data was cleaned in order to eliminate any incomplete responses or any responses that seemed unreliable in nature. From this data, 218 responses were suitable to be used for testing.

Levene's Test

First, a test for the homogeneity of variances was conducted. Any failure to meet this assumption is not a major concern given ANOVA is robust to violations when the sample sizes in the cells are approximately equal which they were in this study. For greenwash present in an advertisement, the Levene statistic reported an F-value of .100 with an associating p-value of .905. This indicates that the assumption of equal variances has been met since the p-value is greater than 0.05. Purchase intent reported an F-value of

2.563 and a p-value of .079, also meeting the assumption of equal variance. This assumption was met for consumer attitude as well with an F-value of .390 and a corresponding p-value of .678. These results are listed in Table 1 below.

Table 1: Levene’s Statistic for Dependent Variables of Interest

	Levene Statistic	p-value
Greenwash present	0.100	0.905
Purchase intent	2.563	0.079
Attitude	0.390	0.678

ANOVA Test

Next, a one-way ANOVA test was ran on the data collected regarding the three advertisements to test H₁. The ANOVA test showed greenwash perceived as having an F-value of 19.451 and a p-value equaling .000. Given that the p-value for greenwash is less than the predetermined level of significance of .05, the overall relationship is significant. Purchase intent is not significant because it had a resulting F-value of 2.058 with a corresponding p-value of .130, greater than the .05 significance level. Consumer attitude reported an F-value of 3.750 with an associating p-value of .025, making this test statistically significant. The results from the ANOVA test are listed in Table 2.

Table 2: ANOVA H₁

		Sum of Squares	df	Mean Square	F	Sig.
Attitude	Between Groups	7.106	2	3.553	3.750	.025
	Within Groups	202.747	214	.947		
	Total	209.853	216			
Purchase Intent	Between Groups	5.699	2	2.850	2.058	.130
	Within Groups	297.769	215	1.385		
	Total	303.468	217			
Greenwash Perceived	Between Groups	47.018	2	23.509	19.451	.000
	Within Groups	258.650	214	1.209		
	Total	305.668	216			

Tukey's Test

Hypothesis 1a (measuring greenwash perceived) was measured by prompting participants to: “Please indicate to what level you agree/disagree with the following statement: the above advertisement contains elements of greenwash.” Participants then selected a point on the scale ranging from 1-Strongly Disagree to 5-Strongly Agree. Post-hoc analysis for this study was conducted using the Tukey HSD test in order to compare group mean of the variables. H_{1a} (measuring greenwash perceived) showed that comparisons were significantly different ($p < 0.05$). Results reveal that the non-greenwashed advertisement mean ($M = 2.48$) is lower than the means for the control group ($M = 3.15$) and the greenwashed group ($M = 3.61$).

H_{1b} (measuring purchase intent) was measured using a five point Likert scale and was presented as follows: “What is the likelihood of you purchasing the above product

based off the advertisement?” Respondents then selected their choice on a scale ranging from 1-Extremely unlikely to 5-Extremely likely. For H_{1b} , the ANOVA and Tukey HSD test reveals that none of the group means are significantly different from the other ($p > 0.05$). The mean for the control group was ($M = 2.22$). The mean for the non-greenwashed group was ($M = 2.47$). The mean for the greenwashed group was ($M = 2.61$). Lower purchase intent was expected for the greenwashed advertisement. Although the groups were not significantly different, the greenwashed advertisement actually produced a slightly higher (as opposed to the expected) level of purchase intent.

Hypothesis 1c (measuring attitude), was measured using the following question: “Please indicate your attitude toward the above advertisement.” Responses were scaled on a level of 1-Dislike a great deal to 5-Like a great deal. Tukey’s test for H_{1c} shows that the mean for the control group ($M = 3.04$) was also lower than both the greenwashed group ($M = 3.32$) and the non-greenwashed group ($M = 3.48$). The greenwashed ad and non-greenwashed ad were not significantly different ($p > 0.05$). Results from Tukey’s test are also shown in Table 3 below.

Table 3: Tukey's Test Post-Hoc Analysis

Dependent Variable	Advertisement	Advertisement	Sig.	95% Confidence Interval	
				Lower Bound	Upper Bound
Greenwash Present	1	2	.001	.24	1.10
		3	.035	-.89	-.03
	2	1	.001	-1.10	-.24
		3	.000	-1.56	-.70
	3	1	.035	.03	.89
		2	.000	.70	1.56
Purchase Intent	1	2	.416	-.71	.21
		3	.113	-.85	.07
	2	1	.416	-.21	.71
		3	.738	-.61	.32
	3	1	.113	-.07	.85
		2	.738	-.32	.61
Attitude	1	2	.020	-.82	-.06
		3	.203	-.66	.11
	2	1	.020	.06	.82
		3	.584	-.22	.54
	3	1	.203	-.11	.66
		2	.584	-.54	.22

Analysis and Results H₂

Data collected to measure H₂ was also tested using SPSS software. Information for this portion of the study was collected in the same survey that was issued as when measuring H₁. For this section, participants were presented one of two social media posts made by Tom's of Maine, one post involved green marketing while the second post did

not. Data collected was ran through an independent samples t-Test. The dependent variables tested were consumer attitude towards the social media post and purchase intent which were both measured against the independent variable of the two social media posts. In order to gauge the variable of purchase intent, survey participants were presented with the following question: “How likely is it you would purchase from the above brand based off the social media post shown?” Respondents were then asked to record their response on a Likert scale ranging from 1-Extremely unlikely to 5-Extremely likely. To measure attitude toward the post, participants were presented with the statement: “Please indicate your attitude toward the above social media post.” They were then asked to measure their response on a Likert scale ranging from 1-Dislike a great deal to 5-Like a great deal.

Levene’s Test

Levene’s test for equality of variances was ran on the two variables. The test for purchase intent reported an F-value of 3.548 and a corresponding p-value of .061. Since the p-value of .061 was greater than the .05 level amount, then this test is ruled insignificant and we cannot reject the null of equal variances. Thus, the data meets the value of equal variances. Levene’s test for attitude revealed an F-value of 9.651 with an associating p-value of .002. Since this p-value is below the .05 assumed variance level, it is determined that this test is significant thus rejecting the null of equal variances and it is concluded that the data does not meet the assumption of equal variances. However, as previously mentioned, experiments that feature approximately equal sample sizes are robust to this violation. Also, the independent samples t-test in SPSS modifies the results

to account for this violation.

Independent Samples t-Test

An independent samples t-Test was also ran on the data for H_{2a} and H_{2b} . The independent samples t-Test for purchase intent revealed a t-value of 2.106 and a p-value of .036. Since the p-value for purchase intent is less than the predetermined p-value of .05, then the t-test is ruled significant. The test revealed a t-value of 2.097 for attitude with a p-value of .037. This is also less than the .05 value making this test also statistically significant. The t-Tests reveal that the data collected supports H_{2a} and H_{2b}. The results for the t-Test are also depicted in Table 4.

Table 4: Independent Samples Test

		Levene's Test for Equality of Variances		T-Test Results	
		F	Sig.	t	Sig. (2-tailed)
Purchase Intent	Equal variances assumed	3.548	.061	2.106	.036
	Equal variances not assumed			2.108	.036
Attitude	Equal variances assumed	9.651	.002	2.094	.037
	Equal variances not assumed			2.097	.037

Discussion and Conclusion

H₁ Greenwash Present

As initially hypothesized, greenwashing effects on consumers will be more present and identifiable to the respondent in a greenwashed advertisement than a non-greenwash advertisement. This hypothesis is supported by the following means: the non-greenwashed advertisement had a mean of 2.48 compared to the greenwashed advertisement which had a mean of 3.61. The mean for the control group which had neither greenwash nor non-greenwash elements was fairly distributed in its' results across the scale. The means of the non-greenwashed ad (mean=2.48) and the greenwashed ad (mean=3.61) supports the hypothesis that greenwash is more perceived in a greenwashed ad and vice versa.

H₁ Purchase Intent

The mean of the control group was 2.22, the mean for the non-greenwashed ad was 2.47, and lastly the mean for the greenwashed ad was 2.61. The hypothesis for this construct was that non-greenwashed ad would result in a higher purchase intent with the greenwashed ad having a lower purchase intent. However, the means of the results did not support this construct of the hypothesis, (also keeping in mind the p-value of purchase intent came out to .130 making it non-significant). Purchase intent was actually the highest for the greenwashed ad, moderate for the non-greenwashed ad and lowest for the control group. These results could be associated back to the notion that some consumers look for more obvious green elements when they make a green purchase

(Smith & Brower, 2012). By indicating a higher purchase intent, participants could have simply recognized the environmental factor involved in the purchase. In the study conducted by Gonzalez et. al. (2015), results found that consumers are likely to indicate a higher purchase intent on a greener item in order to have a more positive reflection of themselves. A similar situation could have occurred in this study in that participants felt more positive attitudes in response to indicating a premeditated purchase intent on an item that claims to be good for the environment.

H₁ Attitude

The last construct measured for H₁ was measuring attitude toward the advertisement presented. This construct was supported by the p-value of .025 making it statistically significant. In H₁ attitude was being hypothesized as being more positive in a non-greenwashed advertisement and less positive in a greenwashed advertisement. The mean for the control group was 3.04, for the non-greenwashed ad the mean was 3.48, and for the greenwashed ad the mean was 3.32. Although the groups were not statistically different, these results show that attitude was slightly more positive toward the non-greenwashed ad than the greenwashed advertisement. The significant result was shaped by the control group. It had the lowest attitude scoring of all three with the majority of the respondents indicating they felt neutral towards the advertisement shown.

Content Analysis H₁

A content analysis was utilized to better understand the rationale behind the perceptions of greenwash in the advertisements. The analysis also served as a

manipulation check of the independent variable tested. In the survey participants were asked to identify whether or not they felt there was greenwash in the advertisement presented. After answering this question participants were asked to briefly explain their decision. These responses were reviewed in order to grasp a better understanding on what led participants to their choice. One common theme that occurred in the control group was the mentioning of the color green used in the advertisement. The control ad did not depict anything related to the environment, however it did have a largely green color scheme to coordinate the brands' logo colors. Responses in the report detailed "the colors made it seem green oriented" or "the green standing out in the colors of the picture shows this is an environmentally friendly product." Nineteen of the total sixty-four written responses mentioned the color green. A majority of the other respondents for the control group explained that the advertisement did not "indicate any effect on the environment," nor did it "overtly promote environmental benefits." Twenty-three of the sixty-four written responses from the survey mentioned that there was no environmental elements involved in the advertisement.

The non-greenwashed advertisement featured the new shape of the water bottle, with no mention of any environmental factors. The majority of respondents identified this in the explanation of their reasoning for why they selected the level of greenwash they felt was present. Thirty-eight of the fifty-seven written explanations explicitly mentioned no greenwash in the ad or no environmental elements featured. Responses such as "the advertisement has zero mention or visuals regarding the environment," or nothing in the advertisements is an "indication that they are or are not a green company." The majority

of responses coincided with these remarks in that there was no environmental marketing at all featured.

The greenwashed advertisement received varied responses. This advertisement was very obvious in its' green marketing efforts despite them being greenwashed. On the advertisement it features a water bottle with a large quotation claiming "every drop is green." Some stated in their responses by simply pointing out that the ad "is talking about helping the environment." Others identified the ad as being "sensationalist" or "exaggerated" in its' claims. Twenty-nine of the sixty-four written responses on the survey explicitly stated that they detected greenwash in the advertisement.

H₂ Purchase Intent

The mean for the green social media post when measuring purchase intent equaled 2.54, while the mean for the non-green social media post when measuring purchase intent equaled 2.22. Results regarding purchase intent for both of the posts weighed more heavily on the highly unlikely to unlikely side for both cases. However, results still showed that consumers had a higher purchase intent when it came to the social media post with green marketing elements than the one without. One possible reason for why the results turned out as such could be linked back to the actual brand used for the social media post. As mentioned prior, the post shown was from Tom's of Maine. While this brand was chosen because it sells basic hygiene products that most consumers will purchase, participants prior brand perception could have interfered with their decision making. Tom's of Maine is typically a more expensive product since it is more organic and natural resulting in a higher price. Participants could have already

possessed this knowledge about the brand and their opinions could have been swayed.

H₂ Attitude

Further interpretation of the data was done by comparing the means of the two social media posts in terms of the dependent variables. The mean for the green social media post when measuring attitude was equal to 3.28. This is contrasted to the mean for the non-green social media post when measuring attitude which equaled 3.03. This supports the construct in H_{2b} that consumers would have a more positive attitude toward a social media post that involves green marketing as opposed to a social media post which does not have green marketing elements.

Managerial Implications

The results in this study could benefit marketers as they incorporate green marketing into the promotion of their products. Be it in a social media context or in the traditional print setting. Also, the findings emphasize to businesses that consumers are able to identify greenwashing and this information could hopefully encourage marketers to not use the falsification of their green practices in their marketing ventures. In regards to the social media aspect, both constructs of attitude and purchase intent supported H₂. Utilizing social media platforms to release green marketed material about a product or brand would be especially beneficial since it has been found that green consumers are more likely to use the Internet more often and do so for their shopping as well (Nyilasy & Gangadharbatla, 2016). When utilizing social media as the outlet for distributing marketing material, results from this study showed that respondents reacted more

positively in their answers in reaction to the social media with green elements. This reveals it is likely businesses could have increased purchase intent among customers if they start using the social media medium as a way to inform potential consumers of their environmental efforts.

In regards to the greenwash test, results supported the claim that greenwashing is identifiable by consumers and that consumers had a more positive attitude toward the advertisement that did not possess any greenwashing. However, there was the issue where the results for purchase intention did not support the claim that consumers would be less likely to purchase a product shown in a greenwashed advertisement. This finding could lead to the possibility that just the fact that the advertisement had environmental aspects in it was enough to encourage the consumer to want to make a purchase. It has also been shown that the environmental content, be it either self-promoting in making one feel good for making the more environmentally beneficial choice, or detailing the actual environmental good the company is illustrating in the marketed material, can play a role on consumer perception (Grimmer & Woolley, 2014). This suggests that consumers could have favored the seemingly greener option because they believed its' content or because it made them feel good about making the greener choice.

The content analysis of this study was also very revealing in ways that these results can be applied to the real-world. For example, with the control group, many of the respondents pointed out the color green in the advertisements. Green can usually be associated with nature and the environment in general so this could be an important key to keep in mind when a business is making an environmentally friendly post or

advertisement. Another key finding was from the content analysis of the greenwashed advertisement. Many identified the phrases and terminologies in the advertisement that were exaggerated. This could be crucial to pay attention to when a company is working on an environmental marketing strategy to firstly not greenwash at all but secondly make sure the verbiage used falls within the realm of feasibility.

Results from this study show that regardless of greenwash or location on a social media platform, the green marketed materials rank higher in terms of purchase intent and a more favorable attitude toward the ad or post. Implementing green marketing strategies into a companies' current marketing plan could benefit the business.

Limitations and Future Research

Limitations in this current research could allow for future research to be completed. The advertisements and posts presented in the survey of this study were from actual brands. In developing the research design the researcher attempted to present advertisements/social media posts from lesser known brands in order to eliminate the variable of consumer's prior conception about a product. However, it is still possible that a participant in the research could have their own preconceived opinions. Another possible issue is the actual products themselves. For the advertisement section, ads for water bottles were shown and for the social media section the two posts involved toothbrushes or toothpaste. It is possible that participants in the survey are already committed to a brand and this could have influenced their decision making for purchase intent. For this study, by looking at the responses it was obvious that many confused the use of the color green in the control group for meaning greenwash present. This

misconception could have skewed the final results of the study. Future research could also delve further into the usage of greenwashing and brand perception. This could be done by asking participants to identify what they perceive as greenwashing and to explain their knowledge on the matter.

Also the sample used could have led to limitations in the research.

Approximately, sixty percent of the survey participants were under the age of 24 many of whom came from a college setting and from marketing and merchandising classes. It is possible that these students could have already been familiar with the concepts of greenwashing and knew what to look for in the advertisements. Future research could also account for other measures such as social media use in order to more accurately capture the green marketing on social media platforms.

It is also important to consider the location of where the study was conducted and where a majority of the survey respondents originate from. Most of the respondents for this study are from the Southeastern United States. Future research could look beyond this particular region to see how responses vary. Perhaps regionality and location could have played a part in people's receptiveness to green marketing. Another potentially interesting area of study that came up during the conduction of this is purchase intent based off a person's perceived level of greenwash. In this study purchase intent was only measured against an advertisement, but an additional step could be taken to research how purchase intent or attitude differs when a consumer identifies (or does not identify) greenwash in an advertisement.

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Appendices

Appendix A: Survey

Greenwash Study Alice Townsend

Q1 Thank you for participating in this project. The purpose of this survey is to obtain research on how green marketing advertisements are perceived. This survey should take no longer than ten minutes and will ask you to evaluate an advertisement and then you will be asked several short questions relevant to the ad. This research is being done for completion of the Honors College Undergraduate requirements for a senior thesis. No harm should come from the taking of this survey. Consent is hereby given to participate in this research project. Participation in the project is completely voluntary, and participants may withdraw at any time without penalty, prejudice, or loss of benefits. All personal information is strictly confidential, and no names will be disclosed. Any new information that develops during the project will be provided if that information may affect the willingness to continue participation in the project. All data will be saved on my personal, password-protected Qualtrics account. The data will be saved throughout the duration of the research but upon completion of the research and analysis the data will be disposed of. No data will be retained. The data will be deleted through Qualtrics' disposal software. Questions concerning the research, at any time during or after the project, should be directed to Alice Townsend at (228) 334-1167, or via email at alice.townsend@eagles.usm.edu. This project has been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-5997. Thank you again for your participation!

Q2 Instructions: Please indicate your agreement with the following statements.

Q3 I am concerned about the environment.

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

Q4 I consider myself a green consumer.

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

Q5 Please Read: In the following section you will be presented an ad. After viewing this ad you will be asked to indicate the level of greenwash you feel is present in the advertisement. Greenwashing is when a company exaggerates or is dishonest about the environmental efforts of their company. (Presented either an ad with Greenwash; an ad with no greenwash; or the control advertisement).

Q6 Please indicate your familiarity with the brand shown above.

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)
Extremely Unfamiliar:Extremely Familiar (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7 Please indicate your attitude toward the above advertisement.

- Dislike a great deal (1)
- Dislike somewhat (2)
- Neither like nor dislike (3)
- Like somewhat (4)
- Like a great deal (5)

Q8 What is the likelihood of you purchasing the above product based solely off of the

advertisement?

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

Q9 Please indicate to what level you agree or disagree with the following statement: The above advertisement contains elements of greenwashing.

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)
Strongly disagree:Strongly agree (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10 How often do you purchase bottled water? Choose the option that best reflects your purchase behavior.

- Never (1)
- Occasionally (2)
- Monthly (3)
- Weekly (4)
- Daily (5)

Q11 Please explain briefly what made you feel that this advertisement did (or did not) exhibit greenwashing.

Q12 Instructions: Please view the following social media post made by Tom's of Maine (a seller of hygiene products) and answer the questions thereafter. (Presented either a green or non-green social media post).

Q13 Please indicate on the scale your familiarity with Tom's of Maine

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)
Very Unfamiliar:Very Familiar (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14 Please indicate your attitude toward the above social media post.

- Dislike a great deal (1)
- Dislike somewhat (2)
- Neither like nor dislike (3)
- Like somewhat (4)
- Like a great deal (5)

Q15 How likely is it you would purchase from the above brand based off the social media post shown?

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

Q16 Instructions: Please provide some basic information about yourself.

Q17 What is your age?

Q18 What is your gender?

- Male (1)
- Female (2)
- Prefer not to answer (3)

Q19 What is your highest level of education?

- Completed some high school (1)
- High school graduate (2)
- Completed some college (3)
- Bachelor's Degree (4)
- Master's Degree (5)
- Advanced graduate work or Ph.D. (6)

Q20 What is your race/ethnicity?

- Asian (1)
- Black or African American (2)
- Hispanic or Latino (3)
- White/Caucasian (4)
- Other (5)
- Prefer not to answer (6)

Q21 What is your home state or country if international?

Appendix B: IRB Approval Letter



THE UNIVERSITY OF
SOUTHERN MISSISSIPPI

INSTITUTIONAL REVIEW BOARD

118 College Drive #5147 | Hattiesburg, MS 39406-0001

Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 17032001

PROJECT TITLE: Green Marketing Effects on the Consumer

PROJECT TYPE: New Project

RESEARCHER(S): Alice Townsend

COLLEGE/DIVISION: College of Business

DEPARTMENT: Marketing and Merchandising

FUNDING AGENCY/SPONSOR: N/A

IRB COMMITTEE ACTION: Expedited Review Approval

PERIOD OF APPROVAL: 03/20/2017 to 03/19/2018

Lawrence A. Hosman, Ph.D.

Institutional Review Board

Appendix C: Demographic Information

Table A: Education

Highest Level of Education Completed	Number of Respondents
High School Graduate	6
Completed Some College	122
Bachelor's Degree	51
Master's Degree	27
Advanced Graduate Work or Ph.D.	12

Table B: Gender

Gender	Number of Respondents
Male	73
Female	144

Table C: Race/Ethnicity

Race/Ethnicity	Number of Respondents
Asian	5
Black or African American	35
Hispanic or Latino	3
White/Caucasian	168
Other	5
Prefer not to answer	1

Table D: Age Frequencies

Age Range	Frequency
18-20	19
21-25	111
26-30	12
31-35	8
36-40	17
41-45	11
46-50	8
51-55	7
56-60	7
61-65	4
66-70	6

Appendix D: Control Group Advertisement

ON A COURSE
FOR GREATNESS

BORN BETTER.[®]
Only from carefully selected natural springs.

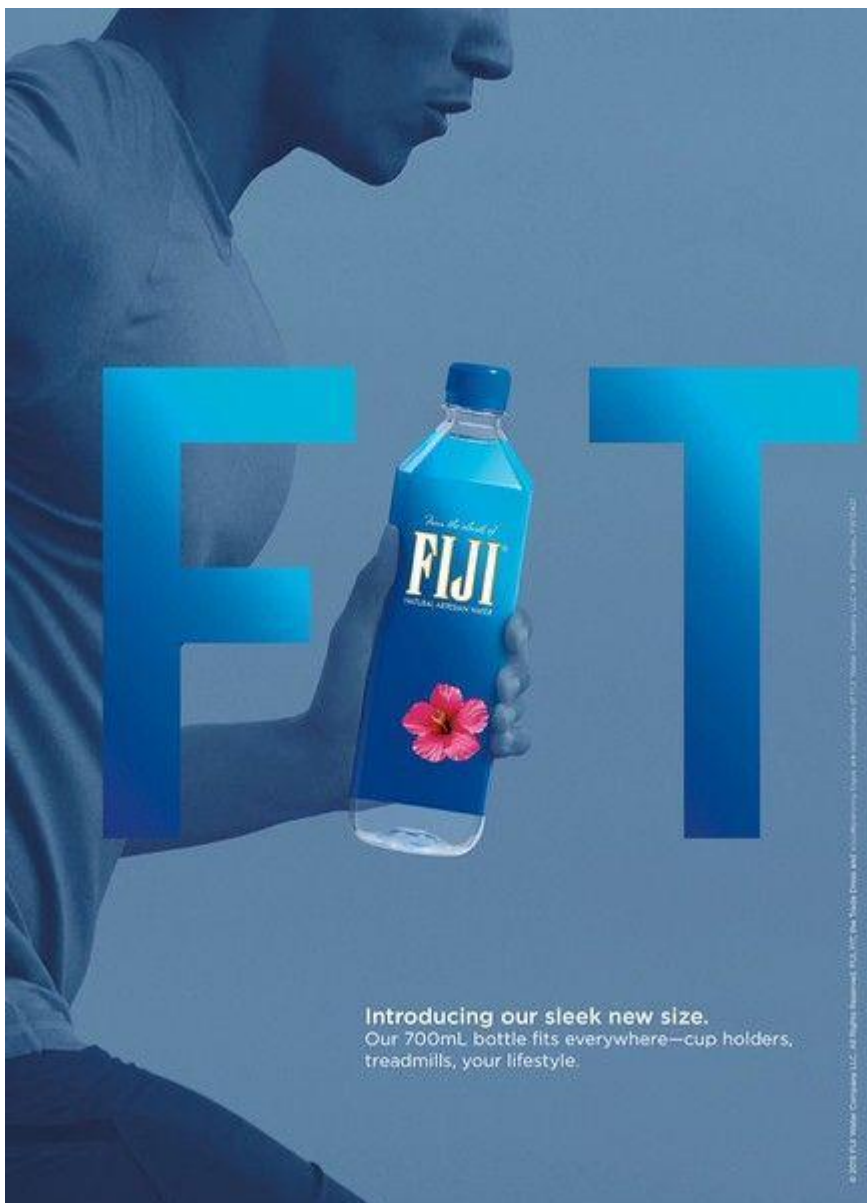
Poland Spring
PURE QUALITY
100% Natural Spring Water
EST. 1845

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BOSTON MARATHON/B.A.A. MARATHON[®] and the B.A.A. Unicorn Logo are registered trademarks of the Boston Athletic Association. Use of these trademarks without written permission from the Boston Athletic Association is prohibited.

The advertisement features a woman and a man running together on a path. The woman is wearing a green jacket and black leggings, and the man is wearing a green long-sleeve shirt and black shorts. They are both holding Poland Spring water bottles. The background shows a city skyline across a body of water. A large, detailed image of a Poland Spring water bottle is positioned in the foreground on the right. The bottle has a blue cap and a label with the brand name and '100% Natural Spring Water'. The overall color scheme is green and white, with a dark background for the runners.

Poland Springs. (2011). Retrieved from: <https://www.polandspring.com/>

Appendix E: Non-Greenwashed Advertisement



Fiji Fit. (2015). Retrieved from: <https://www.fijiwater.com/>

Appendix F: Greenwashed Advertisement



Fiji: Every drop is green. (2008). Retrieved from: <https://www.fijiwater.com/>

Appendix G: Green Social Media Post



Non-green Social Media Post



Tom's of Maine. (2017). Retrieved from:
[https://twitter.com/TomsOfMaine?ref_src=twsrc%5Egoogle%7Ctwcamp%5Eserp%](https://twitter.com/TomsOfMaine?ref_src=twsrc%5Egoogle%7Ctwcamp%5Eserp%5Esource%3Epaid)