

PRICE, QUALITY AND CONVENIENCE AS PREDICTORS OF CONSUMER
PURCHASING OF SUSTAINABLE PRODUCTS

by

Cinthia Jimenez, B.S.

A thesis submitted to the Graduate Council of
Texas State University in partial fulfillment
of the requirements for the degree of
Master of Science
with a Major in Merchandising and Consumer Studies
May 2016

Committee Members:

Gwendolyn Hustvedt

Vertica Bhardwaj

Jiyun Kang

COPYRIGHT

by

Cinthia Jimenez

2016

FAIR USE AND AUTHOR'S PERMISSION STATEMENT

Fair Use

This work is protected by the Copyright Laws of the United States (Public Law 94-553, section 107). Consistent with fair use as defined in the Copyright Laws, brief quotations from this material are allowed with proper acknowledgment. Use of this material for financial gain without the author's express written permission is not allowed.

Duplication Permission

As the copyright holder of this work I, Cinthia Jimenez, authorize duplication of this work, in whole or in part, for educational or scholarly purposes only.

ACKNOWLEDGEMENTS

My committee members Dr. Hustvedt, Dr. Kang, and Dr. Bhardwaj, have been crucial in the success of this research project. Special thanks to Dr. Hustvedt whose passion for sustainability inspired me to develop this project. Her advice and mentoring were fundamental in the developing of this research. I also want thank to my parents who always have given me their support, their love and they have always been there for me, they also, encouraged me to dream, persevere, and be faithful. I would also like to thank Bobbi Ryder, who believed in me since the first moment she met me, and she supported throughout my study abroad journey. My deepest thanks to my friend Mary Grace whose kindness, love, and altruism have inspired me to be a better person.

I can only speak with a grateful heart; a few years ago my idea of studying abroad was only a dream but my family and friends encouraged me and supported me to continue trying until I achieved my dream.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	iv
LIST OF TABLES	vii
ABSTRACT	ix
CHAPTER	
I. INTRODUCTION	1
Background	1
Literature Review	2
Price	3
Quality	4
Convenience	5
Research Model	6
Hypothesis	6
II. METHODS	8
Survey Design	8
IRB Exemption	8
Measures	8
Pretest	11
Participants	12
Statistical Methods	12
III. RESULTS	13
Respondents Demographics	13
Validation of Variables	14
Price	14
Quality	15
Convenience	16
Attitudes Towards Sustainable Products	17
Sustainable Purchasing Behavior	19
Variable Descriptives	23
Predictive Data Analysis	24

Multiple Regression Analysis for Price Quality, and Convenience Predicting Attitudes Towards Sustainable Products	25
Regression Analysis for Attitudes Towards Sustainable Products Predicting Environmental Focus Purchasing Behavior	26
Multiple Regression Analysis for Price, Quality, and Convenience Predicting Environmental Focus Purchasing Behavior	27
Multiple Regression Analysis for Price, Quality, Convenience and Attitudes Towards Sustainable Products Predicting Environmental Focus Purchasing Behavior	29
Regression Analysis for Attitudes Towards Sustainable Products Predicting Sacrifice Purchasing Behavior	30
Multiple Regression Analysis for Price, Quality, And Convenience Predicting Sacrifice Purchasing Behavior	31
Multiple Regression Analysis for Price, Quality, Convenience and Attitudes Towards Sustainable Products Predicting Sacrifice Purchasing Behavior	32
 IV. DISCUSSION AND CONCLUSIONS	 35
Theoretical Implications	35
Price	36
Quality.....	36
Convenience.....	37
Environmentally Focused versus Sacrifice Based Behavior	38
Practical Implications.....	39
Recommendation for Future Research.....	40
 APPENDIX SECTION	 41
REFERENCES	46

LIST OF TABLES

Table	Page
2-1: Items measuring the price, quality and convenience variables.	9
2-2: Behavioral belief items used in the expectancy-value method of creating the attitude towards sustainable products variable.	10
2-3: Items measuring the sustainable purchasing behavior variable.	11
3-1: Overall Demographics Characteristics.	14
3-2: Means and standard deviation for the items measuring Price.	15
3-3: Means and standard deviation for the items measuring Quality.	16
3-4: Means and standard deviation for the items measuring Convenience.	17
3-5: Means and standard deviation for the items measuring Attitudes Towards Sustainable Products.	19
3-6: Means and standard deviation for the items measuring Sustainable Purchasing Behavior.	20
3-7: Factor Loading for the Rotated factors of Sustainable Purchasing Behavior.	22
3-8: Summary of Variables.	24
3-9: Means, Standard Deviation, and Intercorrelations for Attitudes Towards Sustainable Products, and Predictor Variables (N = 498).	26
3-10: Simultaneous Multiple Regression Analysis Summary for Price, Quality, and Convenience Predicting Attitudes Towards Sustainable Products (N = 498).	26
3-11: Means, Standard Deviation, and Intercorrelations for Environmental Focus Purchasing Behavior and Predictor Variable (N = 498).	27
3-12: Regression Analysis Summary for Attitudes Towards Sustainable Products Predicting Environmental Focus Purchasing Behavior (N = 498).	27

3-13: Means, Standard Deviations, and Intercorrelations for Environmental Focus Purchasing Behavior and Predictor Variables (N =499).....	28
3-14: Simultaneous Multiple Regression Analysis Summary for Price, Quality, and Convenience Predicting Environmental Focus Purchasing Behavior (N = 499)...	28
3-15: Means, Standard Deviation, and Itercorrelations for Environmental Focus Purchasing Behavior and Predictor variables (N = 498).	30
3-16: Simultaneous Multiple Regression Analysis Summary for Price, Quality, Convenience and Attitudes Towards Sustainable Products Predicting Environmental Focus Purchasing Behavior (N = 498).	30
3-17: Means, Standard Deviation, and Intercorrelations for Sacrifice Purchasing Behavior and Predictor Variable (N =498).	31
3-18: Regression Analysis Summary for Attitudes Towards Sustainable Products Predicting Sacrifice Purchasing Behavior (N = 498).....	31
3-19: Means, Standard Deviations, and Intercorrelations for Sacrifice Purchasing Behavior and Predictor Variables (N =499).	32
3-20: Simultaneous Multiple Regression Analysis Summary for Price, Quality, and Convenience Predicting Sacrifice Purchasing Behavior (N = 499).....	32
3-21: Means, Standard Deviation, and Intercorrelations for Sacrifice Purchasing Behavior and Predictor variables (N = 498).....	33
3-22: Simultaneous Multiple Regression Analysis Summary for Price, Quality, Convenience and Attitudes Towards Sustainable Products Predicting Sacrifice Purchasing Behavior (N = 498).	34

ABSTRACT

The purpose of this study was to identify the effect of perceptions of price, quality, convenience, on attitudes towards sustainable products as well as on sustainable purchasing behavior. Quantitative data was collected for this study; a total of 500 female survey participants were recruited to participate in the study. Multiple regression analysis showed that perceived quality is the top predictor of attitudes towards sustainable products, followed by convenience and price. Further, results of the study suggest that there is a positive significant relationship between attitudes towards sustainable products and sustainable purchasing behavior. This study could be used by sustainable producers as a source of information about the main drivers of sustainable purchasing behavior. It also can help them to identify which factors are more appealing to consumers when they make their sustainable purchasing decision.

I. INTRODUCTION

Background

As the impact of global climate change begins to become evident, consumers and producers are increasingly turning towards consumption as a major driver of unsustainable conditions, especially in the United States. Although this country has 5% of the global population, the U.S. consumes about 23% of the global energy (Electric Choice, 2015). However, concerns about sustainable practices have increased in the two past decades, and more sustainable movements have been developed involving governments and other stakeholders. Additionally, companies and consumers are becoming more aware of the impact of consumption on the environment (UNEP, 2012). Many companies are trying to change their practices. For example, UNILEVER has developed the “Unilever Sustainable Plan” that attempts to reduce the use of carbon and incorporate the use of recycled material (Unilever, 2016). However, Gam (2011) suggests that there is a lot of work that remains to be done in order for consumers to engage more in sustainable practices. For example, in the fashion industry, consumers are less likely to purchase sustainable garments because they are not fashionable. Fashion following consumers have environmental concerns, but they do not transform those concerns into actions (Chan & Wong, 2012).

Researchers continue to try to identify the factors that motivate consumers to purchase sustainable products. The literature suggests that consumers are more motivated by price and quality than by sustainable production practices. Niinimäki (2010) suggests that consumers’ ethical decisions are related to social orientation, ideals, and ideology.

They suggest that ethical concerns will only transform into action if this does not affect price, quality, or comfort. For example, according to Joergenes (2006), consumers are aware of unethical practices in apparel factories, yet they do not worry about those issues when they are purchasing clothes. When consumers consider the purchase of a garment, they hardly ever think about sustainability; instead, price and style are more dominant factors in purchasing-behavior. The idea of updating one's own appearance is more appealing than sustainable consumption. As a result, companies are pushed to develop mass-production at low-cost, employing unsustainable practices (Niinimaki, 2010).

Consumers are more driven to purchase products by their desire than their guilt (Lee, 2008; Beard, 2008). Gam (2011), found that fashion leaders do not demonstrate high interest in purchasing environmentally friendly clothes because those that are available are neither fashionable nor innovative enough for their taste. Another example is found in the food industry, where ethical foods represent only five percent of sales (Young et al., 2010). These facts support the notion that consumers have a positive attitude towards environmental concerns, but they seldom transform those concerns into action (Chan and Wong, 2012; Vermeir and Verbeke, 2006).

Literature Review

Identifying the main drivers of consumer purchasing intent is not an easy task because there are so many factors that play a role on consumer purchasing behavior. Many marketers have suggested that price, quality and convenience are the major criteria used by consumers to select their purchase (Niinimaki, 2010). This study attempts to provide evidence that these three criteria are equally critical predictors of consumer behavior in regard to purchase of sustainable products. This study contributes to the

literature by developing a model that specifically identifies the effects of perceptions of price, quality, and convenience on attitudes towards sustainable products and sustainable purchasing behavior.

Previous researchers have found that there is a gap between consumer attitudes towards sustainable products and the actual purchase of sustainable products. Consumers might have a positive attitude towards sustainable products but these attitudes are rarely transformed into actions (Chan and Wong, 2012; Vermeir and Verbeke, 2006).

Price

Chang et al., (2015) suggest that price is considered as both an indicator of quality and sacrifice for the majority of products and services. Furthermore, consumers are motivated by the hedonic and novelty involved in the purchasing process. However, incurring a higher cost is one of the major barriers of purchasing sustainable products (Gam, 2011).

In the fashion industry, consumers' value fit, quality, color, compatibility with the clothes they already have, and their need for new clothes, but price is the major criterion that affects their purchasing decision. Consumers will purchase sustainable products if it does not involve higher price, loss of quality, or discomfort in shopping (Niinimaki, 2010). However, Mohor and Webb (2006) suggest that cheaper products do not compensate for unsustainable practices or a low level of Corporate Social Responsibility (CSR). They also point out that CSR has a higher effect than price on purchasing behavior.

In contrast to Niinimaki (2010) and Gam (2001), Griskevicius, Bergh and Tybur (2010) propose that lowering the price of sustainable products involves a reputational

issue: purchasing a cheaper product (sustainable) instead of a more expensive product (non-sustainable) could be interpreted as indication that an individual cannot afford the more expensive product. A clear example of the issue is taking the bus vs. driving a car, a person could attempt to preserve the environment by taking the bus to go to work, but this behavior might imply a lower status and indicate that he or she cannot afford to behave differently. Alternatively, Griskevicius, Bergh and Tybur (2010) suggest that status is a more important driver of sustainable consumption. Enhancing status led people's desire for sustainable products over more luxurious, non-sustainable products. Status motivation might increase when consumers purchase in public. Additionally, they posit that when consumers have to choose between sustainable products and non-sustainable products, price is not a factor. They point out that altruism is a symbol of wealth and is assimilated with status. Therefore, consumers motivated by status are more likely to purchase sustainable products. For example, a report by the New York Times, demonstrated that the top reason consumers buy the Toyota Prius, a Hybrid car, was because the Prius "makes a statement of themselves," surprisingly, environmental conservation was the last item on the list. This supports the notion that consumers are motivated to purchase sustainable products because they desire to gain status by demonstrating that they are willing and can afford to pay more for the wellbeing of a group (society). Consequently, conspicuous sustainable consumption can be seen as a way to gain a pro-social reputation.

Quality

In general consumers have a negative attitude towards sustainable products because of a perception that they are more expensive and of lower quality than non-

sustainable products. Additionally, consumers have already established loyalty to mainstream products, which makes it even more difficult to change consumers' attitudes towards sustainable products (D'Souza et al., 2006). Furthermore, Gam (2011), suggest that young women, especially fashion leaders, are less likely to purchase eco-fashion clothes because the items available in the market are not very fashionable, supporting the notion that "green is not yet the new black" (P. 189). In the case of clothes made of recycled fabric, consumers think it requires too much effort and is not worth the time, believing that recycled clothes are lesser in quality than clothing made of virgin fabrics (Cervellon and Wernerfelt, 2012). In contrast, Niinimaki's (2005) study revealed that 81.9% of respondents were willing to buy clothes made from recycled material, even if they were of inferior quality than clothes made with virgin materials and only 16.7 said that they were not interested in buying clothes made from recycled materials.

Convenience

Consumers perceive several barriers to purchase of sustainable products; they complain about the difficulties they face when they try to be responsible consumers such as the limited number of alternatives available, and difficulties in understanding product labels. Furthermore, Thorpe, (2012) suggest that consumers believe that "going green is time and energy consuming P. 184" (Cervellon and Wernerfelt, 2012). Other researchers have found that consumers evaluate different utilitarian or functional aspects when they need to select a store, including: the proximity to his or her house, price range of the store items, quality of the products in the store, variety of merchandise within the store, and the use of credit cards or other payments methods (Sirgy, Grewal, and Mangledurg, 2000).

Research Model

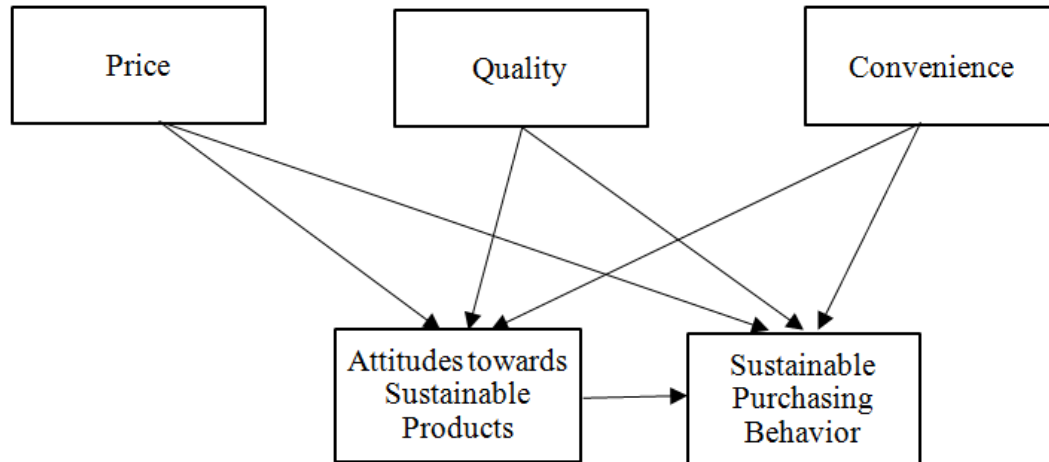


Figure 1-1: Sustainable Purchasing Behavior Model.

The proposed model attempts to identify how price, quality, and convenience has an effect on consumers sustainable purchasing behavior and attitudes towards sustainable products, and how these attitudes influence consumers' sustainable purchasing behavior.

Hypothesis

- H1:** Price sensitive consumers are less likely to purchase sustainable products.
- H2:** Quality sensitive consumers are less likely to purchase sustainable products.
- H3:** Convenience sensitive consumers are less likely to purchase sustainable products.
- H4:** Price sensitive consumers have more negative attitudes towards sustainable products.
- H5:** Quality sensitive consumers have more negative attitudes towards sustainable products.

H6: Convenience sensitive consumers have more negative attitudes towards sustainable products.

H7: Consumers with positive attitudes towards sustainable products are more likely to purchase sustainable products.

II. METHODS

Survey Design

IRB Exemption

This research project has been exempted by the Institutional Review board (IRB) under category two, which includes exemption for any study that does not involve gathering participants' personal information or placing them at risk of committing any crime. Additionally, there are no major risks involved in this study, the risk of participating in this study might not be different from any conversation participants might have in their daily life. The exemption request number for this project is EXP2015M150120K and it was approved on October, 12, 2015 (see appendix section).

Measures

Responses were measured on a seven point Likert scale where 1 is strongly disagree, 2 disagree, 3 slightly disagree, 4 neither agree or disagree, 5 slightly agree, 6 agree, and 7 was strongly agree (see Table 2-1 to Table 2-3)

Table 2-1: Items measuring the price, quality and convenience variables.

Variables	Items	Source
<i>Price</i>	The higher a price of a sustainable product, the more I get the feeling that I can do without some other products I would like to purchase.	Volkner, 2008
	I perceive the price of a sustainable product as a negative thing because it indicates the amount of money that must be given up in order to obtain the product.	
	Before making a sustainable product purchase I consider the amount of money available for spending on other products I would like to purchase.	
	I am interested in sustainable products, but they seem expensive.	
<i>Quality</i>	I search for as much information on the quality of sustainable products before I choose one.	Volkner, 2008
	It is important for me to know exactly the quality of a sustainable product before I buy it.	
	It is important for me to buy sustainable products that are high-quality.	
<i>Convenience</i>	Being a consumer of sustainable products makes my life more convenient.	Wagner, Henning-Thurau, & Rudolph, 2009
	Being a consumer of sustainable products makes me save time and effort.	
	Being a consumer of sustainable products allows me to live with lesser effort.	
	Being a consumer of sustainable products makes my life easier.	

Table 2-2: Behavioral belief items used in the expectancy-value method of creating the attitude towards sustainable products variable.

Variables	Items	Source
<i>Expectancy</i>	A) The following would result from my purchasing a sustainable product.	Hustvedt, 2006
	A fair price for sustainable producers	
	Purchasing a product that is more expensive	
	Supporting sustainable producers	
	Supporting pro-environmental companies	
	Purchasing a quality product.	
	Purchasing a product which is not readily available	
<i>Value</i>	B) How important is each of the following to you?	Hustvedt, 2006
	A fair price for sustainable producers	
	Purchasing a product that is more expensive	
	Supporting sustainable producers	
	Supporting pro-environmental companies	
	Purchasing a quality product. Purchasing a product which is not readily available	
	I am interested in sustainable products but they seem expensive.	

Table 2-3: Items measuring the sustainable purchasing behavior variable.

Variables	Items	Source
<i>Sustainable purchasing behavior</i>	I would buy sustainable products to help support sustainable producers.	Gam, 2010
	If available, I would seek out sustainable products.	
	I would pay more for sustainable products.	
	Whenever possible, I buy products I consider environmentally safe.	
	I am willing to buy sustainable products even if they are less convenience	
	I am willing to buy sustainable products even if they are more expensive	
	I am willing to buy environmentally friendly products.	
	I am willing to buy sustainable products even if they have less quality	
	When I want to buy a product, I look at the ingredients label to see if it contains things that are environmentally damaging.	Lee, 2008
	I prefer sustainable products over non-sustainable products even if their product qualities are inferior.	
	I choose to buy products that are environmentally friendly.	
	I buy sustainable products even if they are more expensive than non-sustainable ones.	

Pretest

A pre-test was conducted with undergraduate students recruited at Texas State University, they were invited by their professors to participate in the study for extra credit. In order to obtain more accurate results, courses with a good mix of different majors were recruited to participate, allowing a diversity of perspectives on the topic.

Participants

Female Participants were recruited to participate in this study. The survey was access online using a link that was sent to participants. Participants received a gift card as an appreciation for their time. This procedure did not involve direct contact between participants and the researcher, so there was no way the researcher could identify participants' identity, their identity was kept confidential. Additionally, as required by the IRB, all participants were over the age of 18, which was indicated on the consent form. Minors did not participate in this study.

Statistical Methods

This study used Kaiser's (1958) Varimax rotation with Principal Components Analyses (PCA). PCA, also known as Exploratory Analyses, was employed to identify if the respondents answered in a scale in a similar manner and reveal they underlying factors that the items were measuring. The main objective of this process was to determine if the scales actually measured what was intended in the way that was intended.

In order to prove the hypotheses, a multiple regression was used. This method allowed determination of the relationship between the independent variables (price, quality, and convenience) with the dependent variables (Attitudes towards sustainable products and sustainable purchasing behavior), and how strong or weak these relationships are. The software program SPSS, provided by Texas State University, was used to run the data.

III. RESULTS

This section details main findings of the survey. The main objective of this research project was to identify if perceptions of price, quality, and convenience are significant predictors of attitudes towards sustainable products and sustainable purchasing behavior.

After coding the variables, all surveys were examined to discard any incomplete or disqualified surveys. A total of 707 participants responded the survey, 65 were identified as incomplete surveys, and 142 were disqualified. Qualification was determined in terms of age and gender, only females qualified to participate in the study. Overall 500 responses were usable for the purpose of the study, resulting on a response rate of 71%.

Respondent Demographics

Participants' demographics are displayed in Table 3-1. Participants' age range was from 18 to 59. When divided into age ranges, the majority of participants fell into the 29 to 27 range. This study only included female participants. In terms of ethnic groups, the majority of participants fell into the Euro American/Caucasian category representing a 68% of the total participants. Therefore, the sample is slightly skewed towards Euro American/Caucasian participants. Moreover, the majority of participants declared a \$5000 or under monthly family income, which skewed the sample toward this category.

Table 3-1: Overall Demographics Characteristics.

Characteristics	f	% Frequency
Age		
18 to 27	21	4.20
28 to 37	155	31
38 to 47	150	30
48 to 57	145	29
57 and over	29.00	5.80
Ethnicity		
Euro-American/Caucasian	338	67.60
African-American	52	10.40
Hispanic/Latino(a)	54	10.80
Asian	28	5.60
Other	27	5.40
Income		
5,000 and under	452	90.40
10,000 to 14,999	5	1
15,000 to 19,999	2	.40
20,000 and over	8	1.60

Validation of Variables

Analyses, including reliability analysis for the published variables and exploratory analyses for the developed variables was conducted to address the underlying composition for all items of each variable, including price, quality, convenience, attitudes towards sustainable products, and sustainable purchasing behavior.

Price

A total of four items from Volkner's (2008) scale were used to measure price. Responses were measured on a seven point Likert scale where 1 was strongly disagree, 2 disagree, 3 slightly disagree, 4 neither agree or disagree, 5 slightly agree, 6 agree, and 7 was strongly agree. In general participants neither agreed or disagreed with the statements pertinent to price, Table 3-2 displays the average score for each item.

Additionally, Cronbach’s Alpha computed to assure reliability indicated that price had good enough reliability when measured with these four items (Alpha = .67).

Table 3-2: Means and standard deviation for the items measuring Price.

Items	n	M	SD
Read the statements and respond based on your agreement			
I am interested in sustainable products, but they seem expensive	498	4.90	1.40
The higher a price of a sustainable product, the more I get the feeling that I can do without some other products I would like to purchase	498	4.11	1.54
I perceive the price of a sustainable product as a negative thing because it indicates the amount of money that must be given up in order to obtain the product	499	4.20	1.54
Before making a sustainable product purchase I consider the amount of money available for spending on other products I would like to purchase	498	4.83	1.41

Note. N = 494 and $\alpha = .67$ for entire measure.

Quality

A total of three items from Volkner’s (2008) scale were used to measure quality. Responses were measured on a seven point Likert scale where 1 was strongly disagree, 2 disagree, 3 slightly disagree, 4 neither agree or disagree, 5 slightly agree, 6 agree, and 7 was strongly agree. On average participants neither agreed nor disagreed with the quality statements; Table 3-3 illustrates the means and standard deviation for the items measuring quality. Additionally, the Cronbach’s Alpha computed to assure reliability indicated that quality had a good reliability when measured with these three items (Alpha = .84).

Table 3-3: Means and standard deviation for the items measuring Quality.

Items	n	M	SD
Read the statements and respond based on your agreement			
I search for as much information on the quality of sustainable products before I choose one	499	4.44	1.52
It is important for me to know exactly the quality of a sustainable product before I buy it	498	4.87	1.49
It is important for me to buy sustainable products that are high quality	497	4.72	1.46

Note. N = 494 and $\alpha = .84$ for entire measure.

Convenience

A total of four items from Wagner, Henning-Thurao, and Rudolph's (2009) scale were used to measure convenience. Responses were measured on a seven point Likert scale where 1 was strongly disagree, 2 disagree, 3 slightly disagree, 4 neither agree or disagree, 5 slightly agree, 6 agree, and 7 was strongly agree. On average participants neither agreed nor disagreed with the quality statements; Table 3-4 illustrates the means and standard deviation for the items measuring convenience. Cronbach's Alpha was computed as well to ensure reliability (Alpha = .91) which provide evidence that the construct has a good reliability.

Table 3-4: Means and standard deviation for the items measuring Convenience.

Items	n	M	SD
Read the statements and respond based on your agreement			
Being a consumer of sustainable products makes my life more convenient	494	4.31	1.38
Being a consumer of sustainable products makes me save time and effort	498	4.36	1.43
Being a consumer of sustainable products allows me to live with lesser effort	498	4.25	1.34
Being a consumer of sustainable products makes my life easier	498	4.37	1.38

Note. N = 489 and $\alpha = .91$ for entire measure.

Attitudes Towards Sustainable Products

The attitude toward sustainable products variable was measured using the expectancy-value model which measures attitudes by first determining behavioral beliefs (the expectation that an outcome is associated with a behavior) and then determining the importance (value) of those same outcomes (Hustvedt, 2006). The expectation that an outcome would occur from the behavior was measured first; participants were asked to indicate how strongly they agreed or disagreed with the statements beginning with: “The following will result from my purchasing sustainable product. The following are examples of outcomes included in this section: “Supporting pro-environmental companies” and “Supporting sustainable producers”. Participants neither agreed nor disagreed that these behaviors would result from their sustainable purchasing behavior ($M = 4.76, SD = 1.01$). Next, the values of the outcomes were measured by asking

participants to indicate “How important are each of these outcomes to you” (from not at all important to extremely important) for the same outcomes presented previously (e.g. “Supporting pro-environmental companies” and “Supporting sustainable producers”). Participants found these outcomes neither important nor unimportant ($M = 4.67$, $SD = 1.00$). Multiplying each expectancy by each value and then summing the values demonstrated that participants had neutral attitudes towards sustainable products ($M = 23.84$, $SD = 9.16$). The means and standard deviation per each item measuring attitudes towards sustainable products are displayed in Table 3-5. The general mean and standard deviation per variable are displayed in Table 3-8.

Table 3-5: Means and standard deviation for the items measuring Attitudes Towards Sustainable Products.

Items	n	M	SD
The following would result from my purchasing a sustainable beauty product.			
A fair price for sustainable producers	494	4.64	1.54
Purchasing a product that is more expensive	494	4.30	1.46
Supporting sustainable producers	496	5.01	1.39
Supporting pro-environmental companies	495	5.12	1.35
Purchasing a quality product	493	5.18	1.30
Purchasing a product which is not readily available	492	4.36	1.35
How important is each of the following to you?			
A fair price for sustainable producers	497	5.28	1.36
Purchasing a product that is more expensive	498	3.73	1.75
Supporting sustainable producers	496	4.90	1.41
Supporting pro-environmental companies	496	5.01	1.54
Purchasing a quality product	495	5.52	1.36
Purchasing a product which is not readily available	494	4.02	1.57

Note. N = 470 and $\alpha = .89$ for entire measure.

Sustainable Purchasing Behavior

A total of 12 items were adapted from Gam (2010) and Lees' (2008) scales to measure sustainable purchasing behavior. Responses were measured on a seven point Likert scale where 1 was strongly disagree, 2 disagree, 3 slightly disagree, 4 neither agree or disagree, 5 slightly agree, 6 agree, and 7 was strongly agree. On average participants were neither agree or disagree with the statements. However, participants indicated that they were slightly agree with the following statement: I am willing to buy environmentally friendly products. They also indicated that they slightly disagreed with

the following statement: I prefer sustainable products over non-sustainable products even if their product qualities are inferior. Table 3-6 illustrates the means and standard deviation for the items measuring sustainable purchasing behavior.

Table 3-6: Means and standard deviation for the items measuring Sustainable Purchasing Behavior.

Items	n	M	SD
Please tell us how much you agree or disagree with the following statements			
I would buy sustainable products to help support sustainable producers	494	4.76	1.41
If available, I would seek out sustainable products	496	4.83	1.43
I would pay more for sustainable products	495	4.28	1.64
Whenever possible, I buy products I consider environmentally safe	495	4.99	1.47
I am willing to buy sustainable products even if they are less convenient	495	4.22	1.60
I am willing to buy sustainable products even if they are more expensive	496	4.21	1.65
I am willing to buy sustainable products even if they have less quality	495	3.80	1.66
I am willing to buy environmentally friendly products	495	5.31	1.41
When I want to buy a product, I look at the ingredients label to see if it contains things that are environmentally damaging :	496	4.47	1.65
I prefer sustainable products over non-sustainable products even if their product qualities are inferior	495	3.94	1.62
I choose to buy products that are environmentally friendly	498	4.87	1.48
I buy sustainable products even if they are more expensive than non-sustainable ones	497	4.24	1.62

Note. N = 486 and $\alpha = .93$ for entire measure.

Because the items used to measure behavior were adapted or developed by the researcher, exploratory analysis with varimax rotation was computed to assess the

underlying structure of the 12 items of *sustainable purchasing behavior*. Two factors were requested, based on the small number of items and the resulting factors demonstrated two constructs: environmental focus and sacrifice. After rotation, the first factor accounted for 35.70% of the variance, the second factor accounted for 34.06% of the variance. Table 3-7 illustrates the items and factor loading for the rotated factors.

The first factor, which seems to index environmental focus, had strong loadings on the first six items. The item “When I want to buy a product, I look at the ingredients label to see if it contains things that are environmentally damaging” was removed from the construct because was cross loaded with the sacrifice construct. Therefore, the results provide evidence for validity; namely that there are two concepts (environmental focus and sacrifice) measured by 12 items. Additionally, the Cronbach’s Alpha computed to assure reliability indicated that environmental focus and sacrifice behavior had good enough reliability when measured with the six items; environmental focus (Alpha = .90) and sacrifice (Alpha = .91).

Table 3-7: Factor Loading for the rotated factors of Sustainable Purchasing Behavior.

	Item	Factor Loading
Factor 1: Environmental Focus		
SusPerBeh8	I am willing to buy environmentally friendly products	.87
SusPerBeh4	Whenever possible, I buy products I consider environmentally safe	.83
SusPerBeh11	I choose to buy products that are environmentally friendly	.79
SusPerBeh2	If available, I would seek out sustainable products	.74
SusPerBeh1	I would buy sustainable products to help support sustainable producers	.71
SusPerBeh9	When I want to buy a product, I look at the ingredients label to see if it contains things that are environmentally damaging	.58
% of variance = 35.70 Cronbach's alpha = .90		
Factor 2: Sacrifice		
SusPerBeh10	I prefer sustainable products over non-sustainable products even if their product qualities are inferior	.81
SusPerBeh7	I am willing to buy sustainable products even if they have less quality	.80
SusPerBeh12	I buy sustainable products even if they are more expensive than non-sustainable ones	.74
SusPerBeh3	I would pay more for sustainable products	.73
SusPerBeh6	I am willing to buy sustainable products even if they are more expensive	.72
SusPerBeh5	I am willing to buy sustainable products even if they are less convenient	.72
% of variance = 34.06 Cronbach's alpha = .91		

Note. $N = 486$ and $\alpha = .93$ for entire measure.

Variable Descriptives

A total of six variables were used to test the model: price, quality, convenience, attitudes towards sustainable products, environmental focus sustainable purchasing behavior, and sacrifice sustainable purchasing behavior. Three items were used to measure price. The following are example questions of price: “Before making a sustainable product purchase I consider the amount of money available for spending on other products I would like to purchase” and “I am interested in sustainable products, but they seem expensive.” Participants indicated that they neither agreed nor disagreed with these statements ($M = 4.51$, $SD = 1.05$). Quality was measured with three items, some of these items were: “I search for as much information on the quality of sustainable products before I choose one” and “It is important for me to know exactly the quality of a sustainable product before I buy it.” Participants neither agreed nor disagreed with those statements ($M = 4.68$, $SD = 1.31$). Convenience was measured with four items, some examples of the items were: “Being a consumer of sustainable products makes my life more convenient” and “Being a consumer of sustainable products makes my life easier,” participants neither agreed nor disagreed with those statements ($M = 4.32$, $SD = 1.22$). Attitudes towards sustainable products was created by multiplying the expectancy and the value for each outcome and then summing the resulting items. First, participants were asked to indicate how agree or disagree they were with statements like: “Supporting pro-environmental companies” and “Supporting sustainable producers.” Participants neither agreed nor disagreed that these behaviors would result from their sustainable purchasing behavior ($M = 4.76$, $SD = 1.01$). Next, the values of the outcomes were measured by asking participants to indicate “How important are each of these outcomes to you” (from

not at all important to extremely important) for the same outcomes presented previously (e.g. “Supporting pro-environmental companies” and “Supporting sustainable producers”). Participants found these outcomes neither important nor unimportant ($M = 4.67$, $SD = 1.00$). Multiplying each expectancy by each value and then summing the values demonstrated that participants had neutral attitudes towards sustainable products ($M = 23.84$, $SD = 9.16$). The sustainable purchasing behavior variable was divided into two new variables: environmental focus and sacrifice. On average participants were neither agree or disagree with the statements about environmental focus purchasing behavior ($M = 4.95$, $SD = 1.22$), participants indicated the same attitudes towards sacrifice purchasing behavior ($M = 4.11$, $SD = 1.35$) (see table 3-8).

Table 3-8: Summary of Variables.

Variable	<i>M</i>	<i>SD</i>
Price	4.51	1.05
Quality	4.68	1.31
Convenience	4.32	1.22
Attitudes	23.84	9.16
Environmental focus	4.95	1.22
Sacrifice	4.11	1.35

Predictive Data Analysis

The conceptual model of this study attempts to explain how the three independent variables: price, quality, and convenience predict attitudes towards sustainable products, and sustainable purchasing behavior. Multiple regression was conducted using regression equations with SPSS to explain the dependent variables. The account of variance for each model was considered and the significance of the models was determined using F-test. R square was used to identify the significance between the variables. Additionally, the p-

value from the t-tests was used to identify the significance of the regression coefficients.

Note that the standard level of significance was 5% ($p < .05$).

Multiple Regression Analysis for Price, Quality, and Convenience Predicting

Attitudes Towards Sustainable Products

Simultaneous multiple regression was conducted to determine the prediction of attitudes towards sustainable products. The combination of the three independent variables: price, quality, and convenience significantly predicted attitudes towards sustainable products: $F(3, 494) = 119.38, P < .001$. The beta coefficients are displayed in Table 3-10. Note that all three variable significantly predict attitudes toward sustainable products. The R squared value was .420, meaning that nearly 50% of the variance in attitudes towards sustainable products is explained by the model. Prior to Multiple regression, intercorrelation was conducted; the means, standard deviations, and intercorrelations can be found on Table 3-9. Examination of the intercorrelation showed that attitude towards sustainable products has a weak uphill linear relationship with price and a moderate uphill linear relationship with quality and convenience. Price was found to have a moderate uphill relationship with quality and convenience. Quality has a strong uphill linear relationship with convenience.

Table 3-9: Means, Standard Deviation, and Intercorrelations for Attitudes Towards Sustainable Products, and Predictor Variables (N = 498).

Variable	<i>M</i>	<i>SD</i>	Attitudes	Price	Quality	Convenience
Attitudes	23.84	9.16	--	.48**	.60**	.58**
Price	4.51	1.05		--	.58**	.56**
Quality	4.68	1.31			--	.71**
Convenience	4.32	1.22				--

**P* < .05; ** *P* < .01

Table 3-10: Simultaneous Multiple Regression Analysis Summary for Price, Quality, and Convenience Predicting Attitudes Towards Sustainable Products (N = 498).

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>P</i>
Price	1.20	.38	.14	3.15	.00
Quality	2.29	.36	.33	6.37	.00
Convenience	2.01	.38	.27	5.30	.00
Constant	-.99	1.46			

Note. $R^2 = .42$; $F(3, 494) = 119.38$, $P < .001$

Regression Analysis for Attitudes Towards Sustainable Products Predicting Environmental Focus Purchasing Behavior

Based on the factor loading, the sustainable purchasing behavior variable was divided into two different variables: Environmental Focus Purchasing Behavior and Sacrifice Purchasing Behavior. These variables measure the separate motivations that consumers may have in their behavior, including environmental concerns and willingness to sacrifice factors such as price, quality, and convenience.

Regression was conducted to determine the best prediction of environmental focus purchasing behavior. The means, standard deviation, and intercorrelations are displayed in Table 3-11. Examination of the intercorrelation showed that attitudes towards sustainable products has a strong uphill linear relationship with environmental

focus purchasing behavior. The relationship between attitudes towards sustainable products and environmental focus was statistically significant, $F(1, 496) = 529.22, P < .001$. The beta coefficients are illustrated in Table 3-12. Note that attitudes towards sustainable products significantly predicts environmental focus purchasing behavior. The R squared value was .516, which indicates that 52% of the variance in environmental focus purchasing behavior was explained by the model.

Table 3-11: Means, Standard Deviation, and Intercorrelations for Environmental Focus Purchasing Behavior and Predictor Variable (N = 498).

Variable	<i>M</i>	<i>SD</i>	Environmental Focus	Attitudes
Environmental Focus	4.95	1.22	--	.72**
Attitudes	23.84	9.16		--

* $P < .05$; ** $P < .01$

Table 3-12: Regression Analysis Summary for Attitudes Towards Sustainable Products Predicting Environmental Focus Purchasing Behavior (N = 498).

Variable	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>t</i>	<i>P</i>
Attitudes	.10	.00	.72	23.00	.00
Constant	2.66	.11			

Note. $R^2 = .52$; $F(1, 496) = 529.22, P < .001$

Multiple Regression Analysis for Price, Quality, and Convenience Predicting Environmental Focus Purchasing Behavior

Simultaneous multiple regression was conducted to investigate the best prediction of environmental focus purchasing behavior. The means, standard deviation, and intercorrelations can be found in Table 3-13. Examination of the intercorrelation shows that environmental focus has a weak uphill linear relationship with price, a moderate

uphill linear relationship with quality and convenience. Price was found to have a moderate uphill relationship with quality and convenience. Quality has a strong uphill linear relationship with convenience. The linear regression shows that the combination of variables to predict the dependent variable from price, quality, and convenience was found statistically significant, $F(3, 495) = 101.33, P < .001$. The beta coefficients are displayed in Table 3-14. Note that Quality and Convenience significantly predict environmental focus purchasing behavior when all three variables are included. The R squared value was .380, which indicates that 38% of the variance in environmental focus purchasing behavior was explained by the model.

Table 3-13: Means, Standard Deviations, and Intercorrelations for Environmental Focus Purchasing Behavior and Predictor Variables (N =499).

Variable	<i>M</i>	<i>SD</i>	Environmental Focus	Price	Quality	Convenience
Environmental Focus	4.95	1.22	--	.38**	.58**	.56**
Price	4.51	1.05		--	0.58**	.56**
Quality	4.68	1.31			--	.71**
Convenience	4.32	1.22				--

* $P < .05$; ** $P < .01$

Table 3-14: Simultaneous Multiple Regression Analysis Summary for Price, Quality, and Convenience Predicting Environmental Focus Purchasing Behavior (N = 499).

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>P</i>
Price	-.01	.05	-.01	-.16	.88
Quality	.33	.05	.36	6.73	.00
Convenience	.31	.05	.31	5.96	.00
Constant	2.07	.20			

Note. $R^2 = .38$; $F(3, 495) = 101.33, P < .001$

**Multiple Regression Analysis for Price, Quality, Convenience and Attitudes
Towards Sustainable Products Predicting Environmental Focus Purchasing
Behavior**

Simultaneous multiple regression was conducted to investigate the best prediction of environmental focus purchasing behavior. The means, standard deviation, and intercorrelations are presented in Table 3-15. Examination of the intercorrelation shows that environmental focus has a weak uphill linear relationship with price, a moderate uphill linear relationship with quality and convenience, and strong uphill linear relationship with attitudes towards sustainable products. Price was found to have a moderate uphill relationship with quality and convenience, and a weak uphill relationship with attitudes towards sustainable products. Quality has a strong uphill linear relationship with convenience and a moderate uphill relationship with attitudes towards sustainable products. Convenience has a moderate uphill relationship with attitudes towards sustainable products. Moreover, multiple regression shows that the combination of variables to predict the dependent variable from price, quality, convenience and attitudes toward sustainable products was found statistically significant, $F(4, 493) = 158.55, P < .001$. The beta coefficients are displayed in Table 3-16. Note that price, quality, convenience and attitudes toward sustainable products significantly predict environmental purchasing behavior when all four variables are included. The R squared value was .563, which indicates that 56% of the variance in environmental purchasing behavior was explained by the model.

Table 3-15: Means, Standard Deviation, and Intercorrelations for Environmental Focus Purchasing Behavior and Predictor variables (N = 498).

Variable	Environmental Focus	Price	Quality	Convenience	Attitudes
Environmental Focus	--	.38**	.58**	.56**	.72**
Price		--	.58**	.56**	.48**
Quality			--	.72**	.60**
Convenience				--	.58**
Attitudes					--

* $P < .05$; ** $P < .01$

Table 3-16: Simultaneous Multiple Regression Analysis Summary for Price, Quality, Convenience and Attitudes Towards Sustainable Products Predicting Environmental Focus Purchasing Behavior (N = 498).

Variable	B	SE B	B	T	P
Price	-.10	.04	-.08	-2.18	.03
Quality	.16	.04	.18	3.78	.00
Convenience	.16	.05	.16	3.52	.00
Attitudes	.07	.01	.56	14.31	.00
Constant	2.15	.17			

Note. $R^2 = .56$; $F(4, 493) = 158.55$, $P < .001$

Regression Analysis for Attitudes Towards Sustainable Products Predicting Sacrifice Purchasing Behavior

Based on the factor loading, sustainable purchasing behavior was divided into two different variables: Environmental Focus Purchasing Behavior and Sacrifice Purchasing behavior.

Regression was conducted to determine the best prediction of sacrifice purchasing behavior. The means, standard deviation, and intercorrelations are displayed in Table 3-17. Intercorrelation shows that attitudes towards sustainable products has a moderate uphill relationship with sacrifice purchasing behavior. Linear regression shows that the

relationship between attitudes towards sustainable products and sacrifice was statistically significant, $F(1, 496) = 246.90, P < .001$. The beta coefficients are illustrated in Table 3-18. Note that Attitudes towards sustainable products significantly predicts sacrifice purchasing behavior. The R squared value was .332, which indicates that 33% of the variance in sacrifice purchasing behavior was explained by the model.

Table 3-17: Means, Standard Deviation, and Intercorrelations for Sacrifice Purchasing Behavior and Predictor Variable (N = 498).

Variable	<i>M</i>	<i>SD</i>	Sacrifice	Attitudes
Sacrifice	4.11	1.35	--	.58
Attitudes	23.84	9.16		--

* $P < .05$; ** $P < .01$

Table 3-18: Regression Analysis Summary for Attitudes Towards Sustainable Products Predicting Sacrifice Purchasing Behavior (N = 498).

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>P</i>
Attitudes	.09	.01	.58	15.71	.00
Constant	2.08	.14			

Note. $R^2 = .33$; $F(1, 496) = 249.90, P < .001$

Multiple Regression Analysis for Price, Quality, and Convenience Predicting Sacrifice Purchasing Behavior

Simultaneous multiple regression was conducted to investigate the best prediction of sacrifice purchasing behavior. The means, standard deviation, and intercorrelations can be found in Table 3-19. Examination of the intercorrelation shows that sacrifice purchasing behavior has a weak uphill linear relationship with price and quality, and a moderate uphill relationship with convenience. Price was found to have a moderate uphill relationship with quality and convenience. Quality has a strong uphill linear relationship

with convenience. Additionally, multiple regression showed that the combination of variables to predict the dependent variable from price, quality, and convenience was found statistically significant, $F(3, 495) = 85.62, P < .001$. The beta coefficients are displayed in Table 3-20. Note that Convenience significantly predicts sustainable purchasing behavior when all three variables are included. The R squared value was .342, which indicates that 34% of the variance in sacrifice purchasing behavior was explained by the model.

Table 3-19: Means, Standard Deviations, and Intercorrelations for Sacrifice Purchasing Behavior and Predictor Variables (N =499).

Variable	<i>M</i>	<i>SD</i>	Sacrifice	Price	Quality	Convenience
Sacrifice	4.11	1.35	--	.36**	.42**	.58**
Price	4.51	1.05		--	.58**	.56**
Quality	4.68	1.31			--	.71**
Convenience	4.32	1.22				--

* $P < .05$; ** $P < .01$

Table 3-20: Simultaneous Multiple Regression Analysis Summary for Price, Quality, and Convenience Predicting Sacrifice Purchasing Behavior (N = 499).

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>P</i>
Price	.07	.06	.05	1.14	.26
Quality	-.01	.06	-.01	-.13	.90
Convenience	.62	.06	.56	10.34	.00
Constant	1.17	.23			

Note. $R^2 = .34$; $F(3, 495) = 85.62, P < .001$

Multiple Regression Analysis for Price, Quality, Convenience and Attitudes

Towards Sustainable Products Predicting Sacrifice Purchasing Behavior

Simultaneous multiple regression was conducted to investigate the best prediction of sacrifice purchasing behavior. The means, standard deviation, and intercorrelations are

presented in Table 3-21. Examination of the intercorrelation shows that sacrifice purchasing behavior has a weak uphill linear relationship with price and quality, a moderate uphill linear relationship with convenience and attitudes towards sustainable products. Price was found to have a moderate uphill relationship with quality and convenience, and a weak uphill relationship with attitudes towards sustainable products. Quality has a strong uphill linear relationship with convenience and a moderate uphill relationship with attitudes towards sustainable products. Convenience has a moderate uphill relationship with attitudes towards sustainable products. Additionally, multiple regression showed that the combination of variables to predict the dependent variable from price, quality, convenience and attitudes toward sustainable products was found statistically significant, $F(4, 493) = 94.30, P < .001$. The beta coefficients are displayed in Table 3-22. Note that quality, convenience and attitudes toward sustainable products significantly predict sacrifice purchasing behavior when all four variables are included but price does not. The R squared value was .433, which indicates that 43% of the variance in sacrifice purchasing behavior was explained by the model.

Table 3-21: Means, Standard Deviation, and Intercorrelations for Sacrifice Purchasing Behavior and Predictor variables (N = 498).

Variable	<i>M</i>	<i>SD</i>	Sacrifice	Price	Quality	Convenience	Attitudes
Sacrifice	4.11	1.35	--	.36**	.42**	.58**	.58**
Price	4.51	1.05		--	.58**	.56**	.48**
Quality	4.68	1.31			--	.72**	.60**
Convenience	4.32	1.22				--	.58**
Attitudes	23.84	9.16					--

* $P < .05$; ** $P < .01$

Table 3-22: Simultaneous Multiple Regression Analysis Summary for Price, Quality, Convenience and Attitudes Towards Sustainable Products Predicting Sacrifice Purchasing Behavior (N = 498).

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>P</i>
Price	.00	.06	.00	-.04	.97
Quality	-.14	.05	-.14	-2.60	.01
Convenience	.50	.06	.45	8.75	.00
Attitudes	.06	.01	.40	8.94	.00
Constant	1.23	.21			

Note. $R^2 = .43$; $F(4, 493) = 94.30$, $P < .001$

IV. DISCUSSION AND CONCLUSIONS

The purpose of this study was to examine the relationship between variables that are commonly considered to impact sustainable purchasing behavior but have not been previously studied carefully to determine the nature of their relationship to attitudes and purchasing behavior. The results of this study have both theoretical and practical implications.

Theoretical Implications

The contribution that this study makes to the theoretical understanding of sustainable consumer behavior lies in the prediction of attitudes towards sustainable products and sustainable purchasing behavior by price, quality, and convenience. Many marketers have suggested that these three factors are the main drivers of purchasing behavior, and this study aimed to demonstrate that this concept also applies to sustainable purchasing behavior. The results suggested that perceptions of price, quality, and convenience significantly predict attitudes towards sustainable products. It is important to note that quality is the major predictor, followed by convenience and price. The hypotheses established in this study proposed that these relationships were negative. However, the results demonstrated that consumer perceptions related to price, quality, and convenience have a positive effect on attitudes toward sustainable products. Although D'Souza et al. (2006), argue that consumers have negative attitudes towards sustainable products because they find them too expensive and lower quality than non-sustainable products, the results of this study provide evidence that quality-sensitive consumers have positive attitudes towards sustainable products.

Price

A more in depth examination of the results demonstrated that the relationship between these factors and sustainable purchasing behavior is more complex. Results suggested that price significantly predicts attitudes towards sustainable products when the three factors (price, quality, and convenience) are included in the model. It is possible that this is because some consumers perceive price as an indicator of quality (Chang et., al 2015). However, regression analyses demonstrated that price does not have an effect on sacrifice purchasing behavior or on environmental purchasing behavior. Additionally, when adding attitudes towards sustainable products into the model, price does not seem to predict sacrifice purchasing behavior but price does have a negative effect on environmental purchasing behavior. This indicates that price sensitive consumers are less likely to make their purchasing decision based on environmental concerns. These results are parallel with Gam (2011), who proposes that price is the main factor that prevents consumers from purchasing sustainable products over non-sustainable products.

Quality

We know that consumers consider organic products as higher quality than non-organic products (Hustvedt, 2006). Quality seems to be a major factor predicting both attitudes towards sustainable products and environmental focus purchasing behavior. On the other hand, there is not significant relationship between quality and sacrifice purchasing behavior when the three factors (price, quality, and convenience) are included in the model. These results suggest that consumers are more likely to purchase environmentally friendly products if they believe that they are high quality. When adding attitudes towards sustainable products into the model, quality was found to have a

negative effect on sacrifice purchasing behavior, which indicates that consumers are not willing to sacrifice quality when they purchase sustainable products. This finding is reaffirmed by the fact that several participants indicated that they slightly disagreed with the following statement about the quality of sustainable products: “I prefer sustainable products over non-sustainable products even if their product qualities are inferior”. These results contradict previous research, suggesting that consumers are willing to purchase sustainable products (made from recycled material) even if they are of inferior quality (Niinimäki, 2005). However, these findings demonstrated that quality has a positive effect on environmental focus purchasing behavior, which indicates that consumers are more likely to purchase environmentally friendly products if they perceive them as high quality.

Convenience

Convenience was found to have a positive effect on both sacrifice purchasing behavior and environmental focus purchasing behavior when including the three factors (price, quality, and convenience) in the model. This contradicts previous findings suggesting that consumers perceive sustainable products as inconvenient; they believe that being a responsible sustainable consumer requires too much energy and time (Thorpe 2012; Cervellon and Wernerfelt, 2012). Additionally, when adding attitudes towards sustainable products into the model convenience still had a positive effect on both sacrifice purchasing behavior and environmental focus purchasing behavior. This indicates that consumers are willing to purchase sustainable products if they believe that they are convenient. It could be possible that consumers are willing to sacrifice other factors such as price and quality if they consider the product convenient.

Environmentally Focused versus Sacrifice Based Behavior

Many researchers have proposed that there is a gap between consumers' attitudes towards sustainable products and purchasing behavior. They suggest that consumers have positive attitudes towards sustainable products, but they rarely transform those attitudes into purchases (Chan and Wong, 2012; Vermeir and Verbeke, 2006). However, results of this study suggest that there is a positive significant relationship between attitudes toward sustainable products and purchasing behavior: based on both environmental focus and on sacrifice. In general, positive attitudes towards sustainable products was affirmed by this survey which found those with positive attitudes saying that they would purchase sustainable products.

When including the three factors (price, quality, and convenience) in the model only convenience significantly affects sacrifice purchasing behavior; for this model price and quality are not significant predictors of sacrifice purchasing behavior. This indicates that convenience is an important factor when consumers make their sustainable purchase decisions; they are more likely to purchase sustainable products if they believe they are convenient. However, convenience and quality were found to positively affect environmental focus purchasing behavior, but price does not affect environmental focus purchasing behavior. This indicates that consumers are more likely to purchase environmentally friendly products if they are high quality and convenient. As mentioned before, these results reaffirm that attitudes towards convenience and quality are crucial when consumers make their purchasing decisions. When adding attitudes towards sustainable products in the model; quality, convenience, and attitudes towards sustainable products had a positive effect on sacrifice purchasing behavior. Price, on the other hand,

does not affect sacrifice purchasing behavior. These results indicate that consumers care about quality and convenience, and their attitudes towards sustainable products also influence their purchases decisions. However, price was found to have a negative relationship with environmental focus purchasing behavior, which indicates that consumers are less likely to purchase sustainable products if they are more expensive than non-sustainable products. Moreover, parallel to sacrifice purchasing behavior model, quality, convenience, and attitudes towards sustainable products had a positive effect on environmental focus purchasing behavior.

Practical Implications

Results of this study suggest that quality and convenience are important factors predicting sustainable purchasing behavior. Consequently, companies need to convince consumers that their sustainable products are high quality and convenient. Therefore, companies producing sustainable products should emphasize the quality and benefits of their products in their marketing campaigns and labels. It is crucial that these companies dedicate time and effort to develop high quality products in order to satisfy consumers' needs. Convenience is another important factor that sustainable producers cannot afford to neglect. Previous research suggests that those who try to consume responsibly find several obstacles to purchase sustainable products, such as limited options available and difficulties understanding labels (Thorpe, 2012). Sustainable producers should pay attention to these factors, and develop more alternatives for consumers. It is important that sustainable producers make the purchasing experience easier and more comfortable for consumers. Sustainable producers should make labels easy to understand and should display their products in a manner that consumers can easily find the products they need.

Recommendation for Future Research

The results of this study contradict previous research that has proposed that price, quality, and convenience are factors that negatively predict attitudes towards sustainable products and sustainable purchasing behavior. The sample of this study only included females. Future research should include females and males to identify if there are differences between genders. Moreover, participants filled out an online survey. Results might vary if participants were interviewed at the store when they are actually making purchasing decisions. Results of this study suggested that price does not influence consumer sustainable purchasing behavior. Future research should investigate if this would change when consumers purchase in public. Moreover, differences between social statuses were not examined in this study, and further research needs to be done in order to identify those differences. Another important implication that might be considered is that people always tend to provide socially acceptable responses, and this aspect could have an impact on the results.

APPENDIX SECTION

APPENDIX A: IRB Approval



Institutional Review Board

Request For Exemption

Certificate of Approval

Applicant: Cinthia Melissa Jimenez Matamoros

Request Number : EXP2015M150120K

Date of Approval: 10/12/15

A handwritten signature in black ink, appearing to read "M. Blonds".

Assistant Vice President for Research
and Federal Relations

A handwritten signature in black ink, appearing to read "Jon Lane".

Chair, Institutional Review Board

APPENDIX B: SPSS Syntax

FACTOR

```
/VARIABLES Price1 Price2 Price3 Price4 /MISSING LISTWISE /ANALYSIS  
Price1 Price2 Price3 Price4  
/PRINT UNIVARIATE CORRELATION DET KMO ROTATION  
/FORMAT SORT BLANK(.3)  
/CRITERIA FACTORS(2) ITERATE(25)  
/EXTRACTION PC  
/CRITERIA ITERATE(25)  
/ROTATION VARIMAX  
/METHOD=CORRELATION .  
EXECUTE.
```

FACTOR

```
/VARIABLES Quality1 Quality2 Quality3 /MISSING LISTWISE /ANALYSIS  
Price1 Price2 Price3 Price4  
/PRINT UNIVARIATE CORRELATION DET KMO ROTATION  
/FORMAT SORT BLANK(.3)  
/CRITERIA FACTORS(2) ITERATE(25)  
/EXTRACTION PC  
/CRITERIA ITERATE(25)  
/ROTATION VARIMAX  
/METHOD=CORRELATION .  
EXECUTE.
```

FACTOR

```
/VARIABLES Conven1 Conven2 Conven3 Conven4 /MISSING LISTWISE  
/ANALYSIS  
Price1 Price2 Price3 Price4  
/PRINT UNIVARIATE CORRELATION DET KMO ROTATION  
/FORMAT SORT BLANK(.3)  
/CRITERIA FACTORS(2) ITERATE(25)  
/EXTRACTION PC  
/CRITERIA ITERATE(25)  
/ROTATION VARIMAX  
/METHOD=CORRELATION .  
EXECUTE.
```

FACTOR

```
/VARIABLES AttSusPro1 AttSusPro2 AttSusPro3 AttSusPro4 AttSusPro5 AtSusPro6  
ImpSusPro1 ImpSusPro2 ImpSusPro3 ImpSusPro4 ImpSusPro5 ImpSusPro6 /MISSING  
LISTWISE /ANALYSIS  
Price1 Price2 Price3 Price4  
/PRINT UNIVARIATE CORRELATION DET KMO ROTATION
```

```
/FORMAT SORT BLANK(.3)
/CRITERIA FACTORS(2) ITERATE(25)
/EXTRACTION PC
/CRITERIA ITERATE(25)
/ROTATION VARIMAX
/METHOD=CORRELATION .
EXECUTE.
```

FACTOR

```
/VARIABLES IntentSusPro1 IntentSuspro2 SusPerBeh1 SusPerBeh2 SusPerBeh3
SusPerBeh4 SusPerBeh5 SusPerBeh6 SusPerBeh7 SusPerBeh8 SusPerBeh9
SusPerBeh10 SusPerBeh11 SusPerBeh12 /MISSING LISTWISE /ANALYSIS
Price1 Price2 Price3 Price4
/PRINT UNIVARIATE CORRELATION DET KMO ROTATION
/FORMAT SORT BLANK(.3)
/CRITERIA FACTORS(2) ITERATE(25)
/EXTRACTION PC
/CRITERIA ITERATE(25)
/ROTATION VARIMAX
/METHOD=CORRELATION .
EXECUTE.
```

RELIABILITY

```
/VARIABLES=Price1 Price2 Price3 Price4
/SCALE('ALL VARIABLES') ALL/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE CORR
/SUMMARY=TOTAL .
EXECUTE.
```

RELIABILITY

```
/VARIABLES=Quality1 Quality2 Quality3
/SCALE('ALL VARIABLES') ALL/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE CORR
/SUMMARY=TOTAL .
EXECUTE.
```

RELIABILITY

```
/VARIABLES=Conven1 Conven2 Conven3 Conven4
/SCALE('ALL VARIABLES') ALL/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE CORR
/SUMMARY=TOTAL .
EXECUTE.
```

RELIABILITY

```
/VARIABLES=ImpSusPro1 ImpSusPro2 ImpSusPro3 ImpSusPro4 ImpSusPro5  
ImpSusPro6 AttSusPro1 AttSusPro2 AttSusPro3 AttSusPro4 AttSusPro5 AtSusPro6  
/SCALE('ALL VARIABLES') ALL/MODEL=ALPHA  
/STATISTICS=DESCRIPTIVE CORR  
/SUMMARY=TOTAL .  
EXECUTE.
```

RELIABILITY

```
/VARIABLES= SusPerBeh8 SusPerBeh4 SusPerBeh11 SusPerBeh2 SusPerBeh1  
/SCALE('ALL VARIABLES') ALL/MODEL=ALPHA  
/STATISTICS=DESCRIPTIVE CORR  
/SUMMARY=TOTAL .  
EXECUTE.
```

RELIABILITY

```
/VARIABLES=SusPerBeh10 SusPerBeh7 SusPerBeh12 SusPerBeh3 SusPerBeh6  
SusPerBeh5  
/SCALE('ALL VARIABLES') ALL/MODEL=ALPHA  
/STATISTICS=DESCRIPTIVE CORR  
/SUMMARY=TOTAL .  
EXECUTE.REGRESSION  
/DESCRIPTIVES MEAN STDDEV CORR SIG N  
/MISSING LISTWISE  
/STATISTICS COEFF OUTS R ANOVA  
/CRITERIA=PIN(.05) POUT(.10)  
/NOORIGIN  
/DEPENDENT ATT_IMP  
/METHOD=ENTER Price Quality Convenience.  
EXECUTE.
```

REGRESSION

```
/DESCRIPTIVES MEAN STDDEV CORR SIG N  
/MISSING LISTWISE  
/STATISTICS COEFF OUTS R ANOVA  
/CRITERIA=PIN(.05) POUT(.10)  
/NOORIGIN  
/DEPENDENT PBehavior  
/METHOD=ENTER Price Quality Convenience.  
EXECUTE.
```

REGRESSION

```
/DESCRIPTIVES MEAN STDDEV CORR SIG N  
/MISSING LISTWISE  
/STATISTICS COEFF OUTS R ANOVA  
/CRITERIA=PIN(.05) POUT(.10)  
/NOORIGIN  
/DEPENDENT PBehavior  
/METHOD=ENTER ATT_IMP.  
EXECUTE.
```

```
REGRESSION  
/DESCRIPTIVES MEAN STDDEV CORR SIG N  
/MISSING LISTWISE  
/STATISTICS COEFF OUTS R ANOVA  
/CRITERIA=PIN(.05) POUT(.10)  
/NOORIGIN  
/DEPENDENT PBehavior  
/METHOD=ENTER Price Quality Convenience ATT_IMP.  
EXECUTE.
```

REFERENCES

- Chan T., & Wong, C. (2012). The consumption side of sustainable fashion supply chain understanding fashion consumers eco-fashion consumption decision. *Journal of Fashion Marketing and Management, 16*(2).
<http://dx.doi.org/10.1108/13612021211222824>
- Chang, S., Chung-Chau C., & Wei-Gan, S. (2015). Quality or sacrifice? the influence of decision task and product characteristics on the dual role of price. *Psychological Reports, 177*(1), 72-88. doi:10.2466/01.PR0.117c14z3
- Cervellon M., & Wernerfelt, A. (2012). Knowledge sharing among green fashion communities online. *Journal of Fashion Marketing and Management; An International Journal, 16*(2). doi: 10.1108/13612021211222860
- D'Souza, C., Taghian, M., Lamb, P., & Peretiatkos, R. (2006). Green products and corporate strategy: An empirical investigation. *Society and Business Review, 1*(2), 144-157. doi:10.1108/17465680610669825
- Gam, H. (2011). Are fashion-conscious consumers more likely to adopt eco-friendly clothing?. *Journal of Fashion Marketing and Management, 15*(2), 178-193. doi: 10.1108/13612021111132627
- Griskevicius, V., Tybur, J. M., & Van, d. B. (2010). Going green to be seen: Status, reputation, and conspicuous conservation. *Journal of Personality and Social Psychology, 98*(3), 392-404. doi:10.1037/a0017346
- Hustvedt, G. (2006). Consumer preferences for blended organic cotton apparel (Dissertation). Kansas State University, Manhattan, Kansas.

- Joergenes, C. (2006). Ethical fashion: myth or future trend?. *Journal of Fashion Marketing and Management: an International Journal*, 10(3), 360-371. doi: 10.1108/13612020610679321
- Kaiser, H. F. (1958). The varimax criterion for analytic rotation in factor analysis. *Psychometrika*, 23(3), 187-200.
- Lee, K. (2008). Opportunities for green marketing: Young consumers. *Marketing Intelligence & Planning*, 26(6), 573-586. doi:10.1108/02634500810902839
- Mohr, L. A., & Webb, D. J. (2005). The effects of corporate social responsibility and price on consumer responses. *Journal of Consumer Affairs*, 39(1), 121-147.
Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=17306401&site=ehost-live>
- Niinimaki, K. (2010). Eco-clothing, consumer identity and ideology. *Sustainable Development*, 18, 150-162. doi: 10.1002/sd.455
- Ottman, J. A., Stafford, E. R., & Hartman, C. L. (2006). Avoiding green marketing myopia. (cover story). *Environment*, 48(5), 22. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=pwh&AN=20996643&site=eds-live&scope=site>
- Sirgy, M. J., Grewal, D., & Mangleburg, T. (2000). Retail environment, self-congruity, and retail patronage: An integrative model and a research agenda. *Journal of Business Research*, 49(2), 127-138.
doi:[http://dx.doi.org.libproxy.txstate.edu/10.1016/S0148-2963\(99\)00009-0](http://dx.doi.org.libproxy.txstate.edu/10.1016/S0148-2963(99)00009-0)

50 Surprising facts on energy consumption in the united states. (2015, September 21).

Retrieved from <http://content.easybib.com/guides/citation-guides/apa-format/how-to-cite-a-website-apa/>

Sustainable consumption and production. (2012, June 22). Retrieved from

<http://www.unep.org/rio20/About/SustainableConsumptionandProduction/tabid/102187/Default.aspx>

Sustainable living. (2016). Retrieved from <https://www.unilever.com/sustainable-living/>

Thorpe, A. (2010). Design's role in sustainable consumption. *Design Issues*, 26(2), 3-16.

Retrieved from

<http://search.ebscohost.com/login.aspx?direct=true&db=cph&AN=50883281&site=ehost-live>

Vermeir, I., & Verbeke, W. (2006). Sustainable food consumption: Exploring the

consumer “attitude - behavioral intention” gap. *Journal of Agricultural &*

Environmental Ethics, 19(2), 169-194. doi:10.1007/s10806-005-5485-3

Volkner, F. (2008). The dual role of price: decomposing consumers’ reaction to price,

Journal of the Academy of Marketing Science. 36(3), 359-377.

Wagner, T. Henning-Thurau, T., & Rudolph, T. (2009). Does customer demotion

jeopardize loyalty?. *Journal of Marketing*, 73(3), 69-85.

Young, W., Hwang, K., McDonald, S., & Oates, C. J. (2010). Sustainable consumption:

Green consumer behaviour when purchasing products. *Sustainable Development*,

18(1), 20-31. doi:10.1002/sd.394