An Investigation of the Effectiveness of Promotion in Sustainability Oriented Marketing Strategies

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AN INVESTIGATION OF THE EFFECTIVENESS OF PROMOTION IN
SUSTAINABILITY ORIENTED MARKETING STRATEGIES

By

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ABSTRACT

The first essay extends Cronin, Brady and Hult’s (2000) model of quality, satisfaction and purchase intentions to include the antecedent of environmental responsiveness. The findings support those of Cronin, Brady and Hult (2000) in that there is a positive, direct relationship between quality, satisfaction and purchase intentions. The findings also suggest that environmental responsiveness leads to positive assessments of satisfaction and quality. It is thereby suggested that environmentally responsive organizations’ products lead to high quality assessments because “green” products are viewed as being technologically advanced and quality is defined as having technological excellence. Therefore, “green” products, by definition, are perceived to be of high quality. Also, it is suggested that environmentally responsive organizations’ products lead to greater customer satisfaction because of individuals’ intrinsic motivations to act in the least detrimental way possible. Therefore, “green” products are preferred because they fulfill this response to engage in beneficial activities.

The second essay considers the effects of four promotional types (i.e. advertising, public relations, word of mouth and expert testimonials) on the relationships between environmental responsiveness, quality, satisfaction and purchase intentions. The findings suggest that environmental responsiveness has positive affects on quality and purchase intentions, but that the relationships are not highly effected by the different forms of promotion. Advertising, public relations and word of mouth promotions suggest a weak relationship between environmental responsiveness and satisfaction, whereas expert testimonial is the sole promotion to strengthen this relationship. A possible explanation to this finding is the high level of credibility associated with expert testimonials that is not associated with the other forms of promotion. This high level of credibility eases the skepticism consumers’ associate with environmental claims, which increases their level of satisfaction with the “green” product.
CHAPTER ONE
INTRODUCTION

What do many major broadcast networks, grocery stores, gas stations, automobile makers, dry cleaners, big and small business and a variety of others have in common? They are all racing to be the most sustainable entity in their respective categories. Organizations across all sectors of the economy believe being perceived as sustainable is a means to achieve a differential advantage. One example of this is BP (formerly British Petroleum), which is one of the top oil and gasoline distributors. BP has shed its old namesake and replaced it with the brand “beyond petroleum.” For example, BP recently launched a prototype “green” gas station in Los Angeles, California. This gas station contains over ninety solar panels, rain collection reservoirs and is constructed of entirely recycled materials and signage. Also, environmentally conscious brochures are available at the pumps that contain embedded seeds so if they are littered they will still benefit the Earth (www.bp.com/US). However, what is missing in both the strategic initiative and the marketing literature is a thorough consideration of how being perceived as sustainable benefits organizations in their marketing efforts; and, more specifically, what forms of promotion are most effective in eliciting “green” consumer behavior.

The literature’s scant treatment of sustainability issues is surprising given the growing trend towards positioning organizations as sustainable. This positioning reflects growing need for firms to take into full account their environmental impact when making business decisions (Menon and Menon, 1997). Often associated with terms such as “green business,” “going green,” and the “green movement,” sustainability has been a concern of activists, organizations, and public officials for several decades. First widely researched in the 1970’s (Ellen, Wiener, and Cobb-Walgren, 1991; Henion and Wilson, 1976; Kinnear, Taylor, and Ahmed, 1974; Murphy, Kangun, and Locander, 1978; Scott, 1977; Webster Jr., 1975), sustainability was dismissed as a “cause” rather than a mainstream concern of either the academic literature or popular press. In recent years, however, sustainability has become a global issue that is viewed as an important concern in every facet of society and business. Today, consumers, managers and government officials, as well as the press, all appear to consider sustainability a timely concern. In
fact, sustainability is now frequently identified as a prescription for long term survival by many businesses and strategic planners (Miles and Covin, 2000), as well as a primary research interest by such organizations as the Marketing Science Institute (MSI) (Osterhus, 1997).

Interest in sustainability is growing because of greater social awareness (Roberts, 1996) that appears to result from the media exposure the issue is gaining. For example, the NBC network dedicated an entire week, November 16-22, 2008, to sustainability. Dubbed “Green Week,” the effort spanned all NBC channels (e.g. NBC, MSNBC, NBC Universal, NBC Mobile) with each having a “green” message in its storyline, station identifications, and on-air promotions. This effort is part of the adoption of a larger “green” strategic orientation for NBC, called “Green is Universal,” where NBC’s goal is to bring “an environmental perspective to our networks, our platforms, our audiences, our communities...in fact, in everything we do” (Busis 2007). In short, exposure to sustainable themes is leading to greater social awareness and concern relative to the issue of sustainability, as well as greater acceptance of sustainability as a viable option in organizational marketing and promotional efforts.

Sustainability is also an issue of interest to government. As energy costs soar, and sustainability increases in visibility and concern among consumers, public officials are increasingly considering social policies related to conservation incentives, pollution, and sustainable economic development. President Barack Obama has argued that environmental sustainability is not a “someday” issue it is “now” (Obama 2007). This strategy is being pursued by his administration. Recently, it awarded 54 billion dollars to developing renewable energy and technology (Times Online 2008).

In spite of the interest demonstrated by consumers, managers, and public officials in sustainability, there is a gap in the literature concerning the role of sustainability in marketing strategies and the effects of environmental responsiveness on consumers’ assessments of products. While literature pertaining to the psychology and science of sustainability can be found in journals such as The Journal of Applied Psychology and Environmental Science, there are only a minimal number of articles found to date in major marketing journals (S. Banerjee, Iyer, and Kashyap, 2003; Kinnear et al., 1974; Osterhus, 1997).
Most of the sustainability research in marketing and related fields has addressed the psychology of consumers in regards to green consumption. For example, research has explored whether the environmental conscious consumer can be defined by demographics (Roberts, 1996). Specifically, the findings suggest that there has been a shift in environmental consumers from older, wealthy Caucasians to a more diverse set of consumers with regards to gender, age, income and ethnicity. Thus, Roberts (1996) concludes that the environmental consumer is not well defined by a certain demographic segment and that “green” consumer behavior is spread across all demographics.

Roberts (1996) found that a possible barrier to “green” consumer behavior is consumer cynicism and confusion over environmental claims. The effectiveness of sustainability strategies are further confounded as “green” products are often more costly. Specifically, green services may not only cost more and require more time and effort to acquire and use, they may also be associated with lower levels of (service) quality. Consumers may also doubt the authenticity of sustainable claims made by firms long associated with products not considered to be environmentally friendly (i.e. Clorox’s new brand line “GreenWorks”).

Little, if any, literature in marketing and related fields has addressed specific consumer outcomes such as satisfaction, quality and purchasing intentions that may result from “green” initiatives. An important question that remains is whether consumers purchase sustainable products because they perceive them to be higher in quality or because it makes them feel good. The importance of such information is particularly high for organizations as they assess how to best position and promote their organization’s goods and services. Roberts (1996) found that consumers purchase sustainable products if quality is comparable to non-sustainable products. He also found that consumers are likely to not purchase sustainable products perceived as lesser quality than competing goods or services. All of these factors play a role in the fulfillment response that leads to satisfaction (Oliver, 1997). Therefore, it is likely that an emotive effect is also present when a consumer considers an environmentally responsive organization and its effects on quality, satisfaction and purchase intentions. The relevant question that remains unanswered is which effect has the greater impact on consumers’ product evaluations and purchase decisions.
Another question that has not been addressed in the literature is what form of promotion (i.e. advertising, public relations, word of mouth and expert testimonials) is most effective in enhancing consumers’ evaluations of and intentions to purchase sustainable products. Roberts (1996) found that many consumers are confused about sustainable products, which hurts evaluations and reduces purchasing intentions. Therefore, testing the effects of different promotional types on consumer assessments in a sustainable context addresses a timely gap in the literature.

This research investigates the relationship between perceived environmental responsiveness and consumer outcomes, and considers possible mediators for this relationship. This study addresses the question of how environmentally responsive positioning helps organizations increase the perceived quality and satisfaction contributed to its products; and, if so, whether such positioning increases intentions to purchase a product.

The three main objectives of this research are to: (1) assess what role satisfaction and quality play in consumers’ intentions to purchase sustainable products, (2) evaluate the relative strengths of different forms of promotion (i.e. advertising, public relations, word of mouth and expert testimonials) in enacting sustainability strategies, and (3) encourage further research as to the role of sustainability in marketing goods and services. The first essay analyzes the effects of perceived environmental responsiveness on quality, satisfaction and purchase intentions; and the second essay assesses the effectiveness of the different promotional types (i.e. advertising, public relations, word of mouth and expert testimonials) on consumers’ assessments of environmentally responsive organizations.
CHAPTER TWO

THE MEDIATING EFFECTS OF QUALITY AND SATISFACTION ON PURCHASE INTENTIONS IN AN ENVIRONMENTALLY RESPONSIVE CONTEXT

Introduction

As consumer demand for “green” products increase, organizations are striving to gain a competitive advantage by positioning themselves as “green.” This “green” responsiveness is being pursued because sustainability is identified as a prescription for long-term reputational and financial advantage (Miles and Covin 2000). Initial research findings also suggest that organizations that are environmentally responsive perform better in the market place (Stone and Wakefield, 2000). Moreover, additional research indicates that sustainable-directed consumers represent a growing segment and that consumers reward environmentally conscious organizations and penalize organizations that are not (Menon and Menon 1997). The importance of consumers’ increasing interest in “green” products is thus evident in firms’ efforts to position their products as “green.”

A prominent example of this increasing environmental concern and behavior is Wal-Mart, the world’s largest retailer. Using internal sales data, Wal-Mart monitors the adoption rates of eco-friendly products within specific product categories through their “Live Better Index.” Established in 2007, this index tracks goods such as extended life paper products, compact fluorescent light (CFL) bulbs, organic milk, and household cleaning products. Results from 2007 to 2008 demonstrate consumers’ growing interest in sustainable products. For example, the sales of CFL bulbs in Wal-Mart stores account for 13.4 percent of the category in 2007 and 19.7 percent in 2008; a 47 percent increase in one year. Similarly, during this time, extended life paper product sales in Wal-Mart stores improved from 50.8 percent in 2007 to 67.5 percent of all paper product sales in 2008; an increase of 32.9 percent in one year (www.livebetterindex.com/sustainability). It is evident that consumers are purchasing “green” products, but the assessments and outcomes resulting from consumers’ sustainable purchasing is yet to be explored.

Among the highly explored and well established assessments and outcomes considered in marketing, quality, satisfaction and purchase intentions rate among the most important (Cronin, Brady, and Hult, 2000). Research contends that quality and
satisfaction are antecedents to a consumer’s intent to purchase a product. However, this relationship has yet to be evaluated in a sustainable setting. The current research extends a modified version of the decision model that Cronin, Brady and Hult (2000) propose. Modified components of quality, satisfaction and purchase intentions are considered from the Cronin, Brady and Hult’s (2000) model and extended by introducing environmentally responsive organization as an antecedent of the relationship between these three decision-making variables. The research investigates whether previously researched antecedents to purchase intentions adhere to the same relationship in a sustainable context. Specifically, the research is undertaken to ascertain whether quality, satisfaction and purchase intentions are consequences of environmentally responsive organizations.

The research is addressed from a consumer’s perspective. The degree to which an organization is environmentally responsive is based solely on whether consumers’ perceive the organization to be environmentally responsive. The overall purpose of this research is to investigate whether consumers’ perceptions of the environmental responsiveness of an organization effect consumers’ perceptions of quality and satisfaction inherent in purchase experiences, as well as their purchase intentions.

**Literature Review**

The relationship between quality, satisfaction and purchase intentions is widely studied and well established in the marketing literature (E. Anderson and Sullivan, 1993; Cronin Jr. and Taylor, 1992, 1994; Parasuraman, Berry, and Zeithaml, 1991; Taylor and Baker, 1994; Zeithaml, Berry, and Parasuraman, 1988). Cronin, Brady and Hult (2000) propose a decision model that includes quality, satisfaction and purchase intentions (see Figure 2.1) and is the basis for this current research.
The definition of quality is traditionally derived from a standard of technological excellence (Oliver 1997). In the marketing literature, quality is more precisely defined as the specific combination of attributes in a product that leads to the greatest level of satisfaction (Garvin, 1984). Quality is shown to be an important antecedent to satisfaction, purchase intentions and loyalty (Brady and Cronin Jr, 2001; Cronin et al., 2000). Recently, quality is most widely investigated in the service setting (Cronin and Taylor 1992, 1994; Parasuraman, Zeithaml and Berry 1991) because of the increasing expansion of the service industry (Zeithaml, Parasuraman and Berry 1991). However, it is also well established that quality is an important driver of consumers’ decision making related to physical goods (Chang and Wildt, 1994; Grewal, Krishnan, Baker, and Borin, 1998; Steenkamp, 1989).

Satisfaction, in contrast, is defined as a fulfillment response that has a threshold (Oliver, 1980, 1997). Once this threshold is reached, satisfaction is experienced. Satisfaction is traditionally thought of as solely a cognitive process, but the definition has broadened to include the degree to which the level of fulfillment is pleasant or unpleasant (Mano and Oliver, 1993). Satisfaction is a part of every product encounter and evaluation (Oliver 1997) where product evaluation is an antecedent to a fulfillment response and satisfaction (Mano and Oliver 1993). Because quality is typically perceived as a product evaluation, it is commonly conceptualized as an antecedent to customers’ satisfaction, as well as purchase intentions (Cronin and Taylor 1992; Cronin, Brady and Hult 2000).

Purchase intentions are commonly perceived as a consequence to a consumer’s assessment of a product based on quality (Cronin and Taylor 1992; Grewal, Krishnan, Baker and Borin 1998) and satisfaction (Oliver 1997; Cronin, Brady and Hult 2000) and
it is typically defined in the literature as a consumer’s intent towards purchasing a product, taking into account perception, knowledge, evaluation and previous experience with the product (Hellier, Geursen, Carr, and Rickard, 2003). Bou Llusar, Cornoza and Tena (2001) find that quality perceptions greatly influence a consumer’s intent to purchase a product. Also, the probability of a purchase occurring increases as the level of satisfaction increases (Anderson and Sullivan 1993; Oliver 1980). However, it has yet to be studied whether this relationship is represented in a sustainable setting.

The relationship between quality, satisfaction and purchase intentions is a well established paradigm. Cronin, Brady and Hult (2000) propose a model evaluating the relationships among these constructs (see Figure 2.1) and find significant results suggesting that quality and satisfaction are antecedents to purchase intentions. The research extends the work of Cronin, Brady and Hult (2001) by investigating the relationship among quality, satisfaction and purchase intentions in the context of an environmentally responsive organization. This extended decision model defines a test of whether the relationship among the constructs (i.e. quality, satisfaction and purchase intentions) changes when evaluated in an environmentally responsive context (see Figure 2.2).

![Figure 2.2: Proposed Model](image)

An environmentally responsive organization is an organization that takes into full account its environmental impact in its business practices and corporate culture (Petts, 1998; Starik and Marcus, 2000). Environmental responsiveness is possible whether the
specific activity of an organization is the manufacture, distribution or resale of products (Menon and Menon 1997). Having an environmentally responsive positioning refers to a firm’s overall concern with their carbon footprint; that is, the discharge of environmentally harmful materials as a result of their activities.

The concept of an “environmentally responsive organization” is not revolutionary. This strategy is being pursued by countless organizations and is frequently researched by academics. However, such research is largely limited to questions as to top-down management strategies (Sharma and Vredenburg 1998; Petts 1998; Starik and Marcus 2000). To date, no research examines sustainable positioning from an external perspective. Specifically, research has not addressed how an organization’s environmental responsiveness effects consumers’ perceptions and assessments of its products. The few studies that investigate sustainable positioning from an external point of view do not address specific consumer assessments such as perceived quality and satisfaction (S. B. Banerjee, 2001; Menon and Menon, 1997).

Research into sustainability as a corporate issue was not found in the mainstream marketing literature (i.e. Journal of Marketing, Journal of Marketing Research, Journal of Consumer Research and Journal of Retailing) until the early 1990’s. Hart (1995) first addressed the omission of sustainability as a marketing issue by calling into question the resource-based view of the firm. Specifically, he questioned the theoretical base of the resource-based view of the firm because it failed to account for the natural environment. Hart’s article led to several investigations into corporate strategy and the environment that support the assumptions that being environmentally responsive gives corporations a competitive (Sharma and Vredenburg, 1998), reputational, and financial (Miles and Covin 2000) advantage.

However, Osterhus (1997) suggests that in order for a sustainable strategy to be effective consumer attributions towards the environment must be activated. That is, consumers must credit some desirable attribute to a product as a result of it being sustainable. Traditionally, two of the most common and widely researched assessments consumers’ attribute to a good or service are quality and satisfaction (Cronin and Taylor 1992, 1994; Cronin, Brady and Hult 2000). Therefore, the quality and satisfaction
consumers credit to a good or service represents a desirable attribute that sustainability might effect.

Mainieri, Barnett, Valdero, Unipan and Oskamp (1997) find that consumers are increasingly more likely to purchase sustainable products, and Ottman (1995) finds that more than forty percent of household goods are sustainable. Given this, it is likely that environmental positioning is as important as or more important than brand name among some consumers (Berger and Kanetkar, 1995). Therefore, it is proposed in the current study that environmental responsiveness directly leads to consumer purchase intentions of sustainable products (see Figure 2.3).

H1: Environmental responsiveness positively effects consumers’ purchase intentions.

Research also shows that quality is an antecedent to purchase intentions Steenkamp 1989; Cronin and Taylor 1992; Grewal, Krishnan, Baker and Borin 1998; Parasuraman, Zeithaml and Berry 1985) and environmental responsiveness is identified as an important antecedent of quality (Shapiro, 1982). Therefore, consumers may purchase products from environmentally responsive organizations because they perceive them to be of higher quality. Given the traditional meaning of quality as having “technological excellence” (Oliver 1997) and that sustainable products are seen as being technologically advanced (Peattie and Charter, 1994) it follows that consumers perceive sustainable products to be technologically advanced, and therefore, high in quality. This suggests the second hypothesis identified in Figure 2.3.

H2: Perceived environmental responsiveness positively effects quality

Environmentally responsive organizations’ products are also viewed as technologically excellent (Peattie and Charter 1994). Technological excellence signifies a high quality product (Oliver 1997) and quality products are found to increase purchase intentions (Cronin, Brady and Taylor 2000). Therefore, it is hypothesized (see Figure 2.3) that if a product from an environmentally responsive organization is perceived as high quality, it leads to increased purchase intentions.

H3: Quality mediates the relationship between environmental responsiveness and intentions

Environmental responsiveness should also effect consumers’ satisfaction. Oliver (1980) defines satisfaction as a fulfillment response and a level of contentment. Research
suggests that consumers have favorable views toward and reward (Menon and Menon 1997) environmentally responsive organizations. This favorable perception increases satisfaction responses (Miles and Covin 2000). Also, research suggests that individuals have an intrinsic motivation to act in a way that is least detrimental to the environment (Blinder, 1987; Deci and Ryan, 1985; Thogersen, 1999). Therefore, environmental responsiveness should be an antecedent to satisfaction responses. It is therefore hypothesized (see Figure 2.3) that environmentally responsive organizations increase consumer satisfaction.

**H4: Perceived environmental responsiveness positively effects satisfaction**

Satisfaction also should act as a mediator between environmental responsiveness and purchase intentions. Oliver (1980, 1997) finds that a consumer’s level of satisfaction with the product is a major antecedent to purchase intentions. Also, this relationship is supported by the theory of reasoned action (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975), which states that an antecedent to intentions is attitude. Therefore, it is hypothesized (see Figure 2.3) that if an environmentally responsive organization elicits a satisfaction response (attitude), it translates into intentions to purchase an environmentally responsive organization’s product.

**H5: Satisfaction mediates the relationship between environmental responsiveness and purchase intentions**

Investigating the well-established decision model of quality, satisfaction and purchase intentions (Cronin, Brady and Hult 2000) in an environmentally responsive context addresses a timely gap in the literature and is worthy of attention. The following model is proposed to test these relationships.
Methods

A survey is conducted using an online survey and data collection website (SurveyMonkey.com). Survey links are distributed by students at a large public university who are offered extra credit for recruiting non-student respondents. Actual respondents are not provided direct incentives for participating in the study. A stratified sampling approach is used as categorical instructions are established relative to the age and gender of respondents. Responses are not restricted to a geographical region, as email contacts and snowballing generates responses from across the United States.

Respondents are asked to evaluate one of six organizations: Wal-Mart, Whole Foods, Chevron, Shell, Toyota and Kia. These organizations are selected based on a paired dichotomous relationship. Specifically, Toyota (Global 100 2005) and Kia (AutoBlogGreen 2006) are both car manufacturers and Toyota is generally seen as environmentally responsive, whereas Kia is not. Respectively, the other pairs of organizations, Chevron (SIRAN 2005) and Shell (Bloggers News Network 2006), and Wal-Mart (SIRAN 2005) and Whole Foods (Global 100 2005), represent organizations generally viewed as more and less environmentally responsive actors respectively with their industries.

The measures of environmental responsiveness, quality, satisfaction and purchase intentions are formatted as seven-point Likert-type scales (with the exception of demographics), ranging from (1) strongly disagree to (7) strongly agree. All scales used
are validated (Oliver and Swan, 1989; Zeithaml, Berry and Parasuraman. 1988; Luo and Bhattacharya, 2006; Cude, 1993) in prior research studies (see Appendix A).

The data are analyzed in accordance with the SEM two-step approach of Anderson and Gerbing (1988) using AMOS 6.0. The measurement model is tested using confirmatory factor analysis to establish construct reliability and convergent and discriminant validity. Causal relationships among the constructs are analyzed using a confirmatory structural model. Demographics of the sample are evaluated using SPSS 15.0.

**Demographics**

The sample size for the study is 520 participants. The age of respondents is relatively well balanced with the largest representation in the 26-35 years (25.0 percent) range and the smallest representation in the over 55 years (13.0 percent) category. The overall gender ratio was approximately evenly distributed between males (49.9 percent) and females (50.1 percent). The mode ethnicity is Caucasian (77.5 percent) with the smallest representation being Native American (1.1 percent). The most reported education level is college graduate (36.7 percent) and the least reported is less than high school (1.3 percent). The mode income level is $100,000 or more annually (20.8 percent) with the least reported income level being $19,999 or less annually (10.6 percent). The demographic characteristics are summarized in Table 2.1.

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>Ethnicity</th>
<th>Education</th>
<th>Annual Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 25 years</td>
<td>22.0%</td>
<td>Male 49.9%</td>
<td>Caucasian 77.5%</td>
<td>Less than high school 1.3%</td>
</tr>
<tr>
<td>26 - 35 years</td>
<td>25.0%</td>
<td>Female 50.1%</td>
<td>African-American 6.7%</td>
<td>High school graduate 8.7%</td>
</tr>
<tr>
<td>36 - 45 years</td>
<td>18.5%</td>
<td>Hispanic 8.7%</td>
<td>Some college 30.5%</td>
<td>$20,000 - $39,999 17.2%</td>
</tr>
<tr>
<td>46 - 55 years</td>
<td>21.5%</td>
<td>Asian-American 1.3%</td>
<td>College graduate 36.7%</td>
<td>$40,000 - $59,999 21.3%</td>
</tr>
<tr>
<td>Over 55 years</td>
<td>13.0%</td>
<td>Native American 1.1%</td>
<td>Some grad school 8.6%</td>
<td>$60,000 - $79,999 18.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other 4.7%</td>
<td>Graduate degree 14.2%</td>
<td>$80,000 - $99,999 11.3%</td>
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<td></td>
<td></td>
<td></td>
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<td>$100,000 or more 20.8%</td>
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**Assessing Reliability**

The path loadings of the aggregate measurement model are used to test for construct reliability (Nunnally 1979). All of the items for each construct in the model are well above the accepted level of 0.70 (Cronbach 1951), ranging from 0.95 (purchase intentions) to 0.98 (environmental responsiveness). Parameter estimates vary from 0.80
to 0.93 for environmental responsiveness, 0.90 to 0.96 for quality, 0.86 to 0.96 for satisfaction, and 0.84 to 0.97 for purchase intentions. A summary of these data are found in Table 2.2. Based on the data identified, it is concluded that construct reliability is present and therefore it is appropriate to test for construct validity.

<table>
<thead>
<tr>
<th>Table 2.2</th>
<th>Summary Results for the Construct Reliability</th>
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<tr>
<td>Chi-square=1128.59, df=269, Alpha level=0.05</td>
<td>RFI=.92  TLI=.94  CFI=.95  RMSEA=.08</td>
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<tr>
<td>Scale Items</td>
<td>Loading</td>
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<td>-------------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>Perceived Environmental Responsiveness</strong></td>
<td></td>
</tr>
<tr>
<td>PER1</td>
<td>0.80</td>
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<tr>
<td>PER2</td>
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<td>0.92</td>
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<tr>
<td><strong>Quality</strong></td>
<td></td>
</tr>
<tr>
<td>QLTY1</td>
<td>0.91</td>
</tr>
<tr>
<td>QLTY2</td>
<td>0.90</td>
</tr>
<tr>
<td>QLTY3</td>
<td>0.96</td>
</tr>
<tr>
<td>QLTY4</td>
<td>0.95</td>
</tr>
<tr>
<td><strong>Satisfaction</strong></td>
<td></td>
</tr>
<tr>
<td>SAT1</td>
<td>0.93</td>
</tr>
<tr>
<td>SAT2</td>
<td>0.94</td>
</tr>
<tr>
<td>SAT3</td>
<td>0.96</td>
</tr>
<tr>
<td>SAT4</td>
<td>0.94</td>
</tr>
<tr>
<td>SAT5</td>
<td>0.86</td>
</tr>
<tr>
<td>SAT6</td>
<td>0.95</td>
</tr>
<tr>
<td><strong>Purchase Intentions</strong></td>
<td></td>
</tr>
<tr>
<td>PI1</td>
<td>0.96</td>
</tr>
<tr>
<td>PI2</td>
<td>0.97</td>
</tr>
<tr>
<td>PI3</td>
<td>0.84</td>
</tr>
</tbody>
</table>
Assessing Validity

Campbell and Fiske (1959) propose a two-fold approach to establish validity using convergent and discriminant validity. A confirmatory factor analysis of the aggregate measurement model is conducted to assess convergent validity (Hatcher 1994). The average variance extracted is 76.9 percent for environmental responsiveness, 86.5 percent for quality, 86.2 percent for satisfaction, and 85.6 percent for purchase intentions (see Table 2.2). Given that all measures are above the accepted level of 0.50 (Segars 1997), convergent validity is supported.

Discriminant validity is tested using a confirmatory factor analysis of the aggregate measurement model (Fornell and Larcker 1981). The shared variances between the environmental responsiveness scale and all other scales range from 0.47 (purchase intentions) to 0.53 (quality.) The shared variances between quality and all other scales range from 0.28 (environmental responsiveness) to 0.51 (satisfaction.) Also, the range of shared variances between satisfaction and other scales range from 0.26 (quality) and 0.48 (purchase intentions.) Finally, the shared variance between purchase intentions and other scales range from 0.22 (quality) to 0.23 (satisfaction.) The variance extracted for all constructs are significantly higher than any of the shared variances and, therefore, establishes discriminant validity (see Table 2.3). Since reliability and convergent and discriminant validity of the measurement model is established, it is appropriate to assess the confirmatory structural model.

<table>
<thead>
<tr>
<th>Construct</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Perceived Environmental</td>
<td>4.112</td>
<td>1.448</td>
<td><strong>0.769</strong></td>
<td>0.276</td>
<td>0.299</td>
<td>0.220</td>
</tr>
<tr>
<td>Responsiveness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Quality</td>
<td>4.570</td>
<td>1.612</td>
<td>0.525</td>
<td><strong>0.865</strong></td>
<td>0.262</td>
<td>0.215</td>
</tr>
<tr>
<td>3. Satisfaction</td>
<td>4.355</td>
<td>1.483</td>
<td>0.547</td>
<td>0.512</td>
<td><strong>0.862</strong></td>
<td>0.232</td>
</tr>
<tr>
<td>4. Purchase intentions</td>
<td>5.263</td>
<td>1.504</td>
<td>0.469</td>
<td>0.464</td>
<td>0.482</td>
<td><strong>0.856</strong></td>
</tr>
</tbody>
</table>

Notes: Intercorrelations (two-tail) are presented in the lower triangle of the matrix. The average variance extracted of each scale is depicted in bold face along the diagonal. Shared variances are given in the upper triangle of the matrix.
Structural Analysis

A structural analysis is conducted to test the relationships among the constructs. The model fit the data considerably well with a chi-square of 1128.59 (df=269, n=520) and fit statistics of RFI=0.92, TLI=0.94 and CFI=0.95. All the estimates are well above the generally accepted level of 0.90 for a good fit (Hu and Bentler, 1999; Netemeyer, Bearden, and Sharma, 2003). All paths in the model are statistically significant, which support the research hypotheses depicting direct relationships between environmental responsiveness and purchase intentions, environmentally responsiveness and quality, and environmental responsiveness and satisfaction. The R squared values for quality, satisfaction and purchase intentions are 0.28, 0.37 and 0.33, respectively.

This model is a modified extension of Cronin, Brady and Hult’s (2000) decision model of quality, satisfaction and purchase intentions. Many relationships found in their model are supported in the findings of the current research (see Figure 2.4). Specifically, the coefficients reported in Cronin, Brady and Hult (2000) are very similar to the coefficients of the proposed model. Overall, the two models mirror each other well. This lends additional validity to the findings of Cronin, Brady and Hult (2000) and it also suggests that environmental responsiveness, as an antecedent, produces similar results in the relationships among quality, satisfaction and purchase intentions as Cronin, Brady and Hult (2000).

The findings of particular interest are those not previously identified (Cronin, Brady and Hult 2000). Specifically, quality proved to be a stronger mediator of the relationship between environmental responsiveness and purchase intentions than satisfaction. The literature states that both quality and satisfaction are antecedents of purchase intentions (Anderson and Sullivan 1993). However, considering this in an environmentally responsive context, the literature supports that quality, as having technological excellence (Oliver 1997) and sustainable products being perceived as technologically innovative (Peattie and Charter 1994), leads to consumers’ increased intentions to purchase a product (Cronin, Brady and Hult 2000).
Discussion

A significant gap in the literature is the lack of research addressing the effects of sustainable responsiveness on marketing outcomes such as behavioral intentions. Several studies have identified organizational sustainability as a competitive advantage (Miles and Covin 2000; Stone and Wakefield 2000; Menon and Menon 1997), yet specific outcomes of this competitive advantage have gone unaddressed. The current findings address this gap and lend support to the notion that environmental responsiveness does have validity in creating a competitive advantage. Specifically, the findings suggest that purchase intentions are increased for an environmental responsive organization both directly and indirectly (through mediation of both satisfaction and quality).

The first relationship examined and found significant is between environmental responsiveness and purchase intentions. Carlson and Kangun (1993) suggest that
consumers reward firms that are environmentally responsible and penalize firms who do not consider the environment in their strategies. The results of this study lend support to the findings, demonstrating that consumer purchase intentions increase if a firm is perceived to be environmentally responsive.

The second relationship investigated is whether quality mediates the relationship between environmental responsiveness and purchase intentions. This relationship is also supported by the data. Quality is traditionally defined as technological excellence (Oliver 1997) and is classified as being a cognitive process (Oliver 1980). Quality is demonstrated in the current study as being antecedent to purchase intentions (Shapiro 1982), which lends support to previous research that identifies quality as an antecedent to purchase intentions (Cronin, Brady and Hult 2000). It also suggests that consumers perceive sustainable products as having technological excellence, and to the extent they do, the results suggest consumers are more or less likely to purchase them. Overall the results suggest that (1) environmental responsiveness directly leads to higher purchase intentions and (2) environmental responsiveness indirectly increases purchase intentions by enhancing quality perceptions consumers attribute to a product.

The third relationship analyzed is whether satisfaction mediates the relationship between environmental responsiveness and purchase intentions. The data suggests that satisfaction does act as a mediator. Satisfaction is a fulfillment response and once a level of fulfillment is reached, satisfaction is achieved (Oliver 1980). It is also commonly referred to as an affective response (Oliver 1980, 1997). The data demonstrate that purchase intentions increase with satisfaction, and higher levels of perceived environmental responsiveness lead to greater levels of satisfaction. This suggests that consumers, in part, purchase “green” products for affective reasons such as intrinsic motivations and gratification. Therefore, firms perceived as environmentally responsive enhance purchase intentions indirectly through increased satisfaction experienced by customers from their having purchased from a firm perceived to be environmentally responsive.

Previous research supports the notion that individuals have an intrinsic motivation to act in the way that is least detrimental to the environment (Blinder 1987; Deci and Ryan 1985; Thogerson 2000). Therefore, satisfaction should be a major determinant in
why consumers choose to buy “green.” This notion is supported in the findings of the research presented. However, the research suggests that quality is a stronger determinant in purchase intentions than satisfaction. This is supported in the data that suggests a stronger indirect effect through quality on environmental responsiveness and purchase intentions than through satisfaction. One reason for this might be that consumers associate “green” products with having a higher quality because they are seen as being “environmentally safe.” These environmental perceptions add to the “technological excellence” that traditionally defines a quality product. Therefore, if sustainable products are seen as being technologically excellent, than it follows that consumers perceive such products as high in quality. This finding is important because it gives insight into “green” purchasing behavior in that it identifies a possible reason why consumer purchase sustainable products.

Conclusions

The findings support the notion having an environmentally responsive positioning is beneficial to an organization. Specifically, we find that quality, satisfaction and purchase intentions are all directly and positively effected by consumers’ perceptions of the environmentally responsiveness organizations. Also, the relationship between environmental responsiveness and purchase intentions suggests that quality, as well as satisfaction, has a mediating effect on the relationship. The research further suggests that the mediating effect of perceived quality is stronger than that of satisfaction on consumers’ intentions to purchase an organization’s sustainable products. Thus, the results suggest this “sustainability” has a greater effect on the perceived technological excellence of an environmentally responsive organization’s products than on customers’ satisfaction with their purchase. This indicates that the more important determinant of the success of “green” initiatives is in the effects on the perceived quality of environmentally responsive products.

Managerial Implications

This research suggests that the relationship between quality, satisfaction and purchase intentions is supported when considering an environmentally responsive organization. A major goal of managers in pursuing a strategy is increasing consumer purchasing. This research can aid managers considering an environmentally responsive
strategy in that it lends support to sustainable positioning increasing consumers’ purchasing intentions directly. Also, the research suggests that quality influences purchase decisions. Therefore, managers who are enacting environmentally responsive positions should stress their environmental position as well as the quality or their products to maximize consumers’ intent to purchase their products as well as create a competitive advantage.

Furthermore, the research suggests that purchase intentions toward sustainable organizations are indirectly affected by satisfaction. Although satisfaction is an affective response and cannot be directly controlled by an organization, it is still beneficial for managers to understand that environmental responsiveness has positive effects on this assessment and it leads to increased purchase intentions, which can be viewed as another advantage in adapting a sustainable strategy.

**Limitations and Future Research**

There are several limitations to this study that need to be acknowledged. First, this area of research is vastly unexplored, and therefore, there are no benchmark studies to use as guidance. The results from this research are, by necessity, exploratory. Second, a convenience sample is used to test the model, which potentially limits the generalizability of the findings. Finally, a true causal relationship between the variables cannot be determined from this research since no experimental manipulations are conducted.

Since the findings are not validated by prior studies, an area for future research is to replicate this study in order to validate or discount the preliminary conclusions. Also, future research should focus on the effects of other consumer assessments and outcomes in an environmentally responsive context. For example, a study should look at the effects of being environmentally responsive on long-term loyalty to an organization, as well as other areas of interest in marketing such as product failures and recovery, switching and share of wallet. This would give insight into how dedicated consumers are to purchasing “green” and whether consumers penalize and exit environmentally responsive firms less frequently for product failures.

Future research should also investigate whether the effects of environmental responsiveness vary over product category and industry. This would add insight into
whether all areas of industry are equally effected by the “green” movement and whether the category of product plays a role in consumer assessments of “green.”
CHAPTER THREE

THE EFFECTS OF PROMOTIONAL TYPES ON CONSUMERS’ PURCHASE INTENTIONS FOR SUSTAINABLE PRODUCTS

Introduction

Organizations are increasingly endeavoring to employ “green” promotional strategies to gain a competitive advantage in the marketplace (Drumwright, 1994). Thus managers are seeking guidance as to how environmental strategies can be most effectively promoted (Walley and Whitehead, 1994). The importance of these efforts are highlighted by the understanding that the identification and implementation of environmental positioning may be more important than traditional aspects of marketing strategy such as brand name (Berger and Kanetkar 1995). Moreover, Mainieri, Barnett, Valdero, Unipan and Oskamp (1997) find that consumers are increasingly more likely to purchase sustainable products. However, the question that is still unaddressed is whether the execution of environmental promotional strategies can lead to differences in the effectiveness of such efforts in gaining consumer attention. Specifically, the question addressed in this research is whether “green” messages are best delivered by advertising, public relations, word of mouth or expert testimonials.

Examples of the use of different forms of delivery for “green” messages abound. Clorox, for instance, has developed a new GreenWorks brand that the company claims to be an “environmentally friendly” natural cleaning product (www.cloroxgreenworks.com). Clorox has used several means to promote its new “green” line. Specifically, Clorox utilizes commercial advertising where it promotes GreenWorks as being the “natural” way to clean. It also employs a celebrity endorser, Jennie Garth, as a spokesperson for its brand. The company, through the brand, is also a “proud” supporter of the Sierra Club. Most recently, Clorox is touting its recognition by the Environmental Protection Agency (i.e. expert testimonial) as having a safe “design for the environment” (EPA 2009). All of these promotions are aimed at convincing consumers that Clorox GreenWorks is “green” and that consumers should buy their products because they are “green.” However, the question remains: what promotional option is the most effective in increasing consumers’ desire to purchase an organization’s “green” products?
The relevance of adopting a ‘green’ orientation is reinforced by Menon and Menon’s (1997) finding that consumers reward environmentally friendly organizations and punish non-environmentally responsive organizations. However, Mainieri, Barnett, Valdero, Unipan and Oskamp (1997) find that many consumers are not trusting of environmental claims. Therefore, it is evident that organizations need to pursue environmentally friendly positioning, while taking into consideration the best promotional option to gain consumers’ confidence in its environmental claims.

This research investigates which type of promotional strategy is the most effective in convincing consumers that an organization’s products are “green” and in increasing the likelihood of customers purchasing the promoted “green” products. The research considers four types of promotions (i.e. advertising, public relations, word of mouth and expert testimonials) to analyze which is most effective in maximizing “green” purchasing intentions.

**Literature Review**

Promotions are used to spread awareness and knowledge about an organization’s products. They also present information organizations feel is advantageous for convincing customers to purchase its products. Promotions aim at effecting consumers’ perceptions (Narasimhan, 1988). This includes enhancing the quality (Milgrom and Roberts, 1990) and satisfaction (Pavlou and Stewart, 2000) consumers attribute to products. While there are many means by which quality and satisfaction can be effected, four types of promotions are commonly used in such efforts: (1) advertising (Raj, 1982; Tellis, 1988), (2) public relations (Ahluwalia, Burnkrant, and Unnava, 2000; Friestad and Wright, 1994), (3) word of mouth (Bansal and Voyer, 2000; Bone, 1995) and (4) expert testimonials (Braverman 2008; Martin, Bhimy and Agee 2002).

Advertising is defined in the literature as any paid form of promotional activity presenting the ideas, goods, or services of the identified sponsor (Raj, 1982). It is one of the most widely used forms of promotion (Bain, 1956). There are three main effects advertising has on a consumer. First, it can lead to brand switching, purchasing intentions, or have a zero effect (Deighton, Henderson, and Neslin, 1994). Second, advertising facilitates brand switching by creating consumer awareness of a product or altering beliefs about a product (Neslin and Shoemaker, 1989). Third, advertising can
lead to purchase intentions if the advertising illuminates the brand usage experience (Deighton, Henderson and Neslin 1994). This is relevant because “green” advertising could potentially influence consumers to switch from their current brand to the “green” brand and increase their purchase intentions of the “green” brand through advertising.

Milgrom and Roberts (1987) find that advertising signals to consumers that a product is of high quality. Furthermore, quality is traditionally defined as having “technological excellence” (Oliver 1997) and sustainable products are viewed as being technologically advanced (Peattie and Charter 1994). Therefore, it is logical that “green” advertising leads to increased quality perceptions. Also, advertising is found to lead to increased satisfaction with products (Pavlou and Stewart 2000) and intentions to purchase products (Pechmann and Stewart, 1990). Therefore, it is hypothesized that advertising leads to higher perceived quality, satisfaction and purchase intentions of sustainable products (Figure 3.1).

**H1: When exposed to an environmentally responsive advertising promotion, as compared to not being exposed to any promotion (i.e. control):**

a. Environmental responsiveness to quality path increases

b. Environmental responsiveness to satisfaction path increases

c. Environmental responsiveness to purchase intentions path increases

Public relations is defined as a program that promotes or protects an organization’s image or the image of its products (Bourne, 1965). It is purported unbiased third party information about an entity such as an organization. It is also perceived as a relatively credible source of information, and hence, more influential than other forms of promotions that are paid for by the organization of interest (Bond and Kirshenbaum, 1998). Research suggests that when product quality is unknown, positive public relations increases consumers’ perceived quality and intentions to purchase a product (Sorenson and Rasmussen 2004). Also, public relations is found to increase consumers’ level of satisfaction with a product (Bourne 1965). Since public relations increase consumers’ positive assessments of unknown or unfamiliar products (Sorensen and Rasmussen, 2004), and sustainable products are viewed as a relatively new product category, it is logical to conclude that public relations increases consumers’ assessments of quality, satisfaction and purchase intentions of sustainable products. Therefore, it is proposed that
public relations positively influences consumers’ purchase intentions of an organization’s sustainable products (see Figure 3.1).

**H2:** When exposed to an environmentally responsive public relations promotions, as compared to not being exposed to any promotion (i.e. control):

a. Environmental responsiveness to quality path increases

b. Environmental responsiveness to satisfaction path increases

c. Environmental responsiveness to purchase intentions path increases

Word of mouth promotions are defined as interpersonal communications where none of the persons involved are marketing sources (Bone 1995). Several studies have confirmed that positive and negative word of mouth effect consumers’ evaluations of products and play an important role in consumers’ attitudes (Harrison-Walker, 2001) and behaviors (Cohen and Golden, 1972; Pincus and Waters, 1977). Some research contends that word of mouth is one of the most influential forces in marketing (Bansal and Voyer, 2000; Hendrick and Shaffer, 1970). This is most likely because the sender of the positive word of mouth has nothing to gain from endorsing a product (Bednall and Kanuk, 1997), and therefore, makes the “green” claim more believable.

Bone (1995) finds that consumers perceive positive and negative word of mouth as an accurate tool for accessing high and low product quality assessments. Bone (1995) also finds that satisfaction evaluations are either higher or lower based on whether consumers received positive or negative word of mouth. Research shows that consumers reward organizations who are environmentally responsive and penalize organizations that are not (Menon and Menon 1997). Therefore, it can be implied that consumers are more likely to spread positive word of mouth about environmentally responsive organizations and products. Since word of mouth is influential in purchase decisions and perceived as being a trustworthy source (Bansal and Voyer 2000), it is hypothesized (see Figure 3.1) that word of mouth positively influences perceived quality, satisfaction and purchase intentions of environmentally responsive organizations.

**H3:** When exposed to an environmentally responsive word of mouth promotion, as compared to not being exposed to any promotion (i.e. control):

a. Environmental responsiveness to quality path increases

b. Environmental responsiveness to satisfaction path increases
c. *Environmental responsiveness to purchase intentions path increases*

Expert testimonials are defined as assertions or statements made by a source that is considered capable of making accurate and correct assessments and/or having related credentials (Sternthal, Phillips, and Dholakia, 1978). Expert testimonials are identified as being a source of credible information (Kelman and Hovland, 1953) and highly credible sources are found to elicit more behavioral compliance than sources of low credibility (Crano, 1970; Sternthal et al., 1978). Also, research shows that consumers are less likely to search for alternative information before making a purchase decision when a high level of certainty is present in marketing promotions (Jagpal, 1999). Some research suggests that testimonials are more persuasive than factual information (Brosius and Bathelt, 1994). Since many consumers state that they do not have trust in organizations’ environmental claims (Mainieri, Barnett, Valdero, Unipan, and Oskamp, 1997), the credibility inherent in expert testimonial may play a significant role in raising consumer confidence in claims, and therefore, increase their purchase intentions.

Roberts (1996) suggest that consumers are often confused over and question the credibility of environmental claims, which reduces the intent to purchase. However, Bone (1995) finds that expert testimonials are the most effective promotions in increasing favorable product quality perceptions when the quality of a product is unknown, which many “green” products are relatively new. Also, many consumers question the credibility of “green” promotions. However, expert testimonials are perceived as highly credible sources (Kelman and Hovland 1953) and are suggested to lead to more compliance in behavioral outcomes (Crano 1970; Sternthal, Phillips and Dholakia 1978) such as higher satisfaction responses (Sternthal, Phillips and Dholakia 1978) and purchase intentions. Therefore, it is hypothesized (see Figure 3.1) that expert testimonials leads to increased quality, satisfaction and purchase intentions when an environmentally responsive organization’s products are considered.

**H4:** When exposed to an environmentally responsive expert testimonial promotion, as compared to not being exposed to any promotion (i.e. control):

- **a. Environmental responsiveness to quality path increases**
- **b. Environmental responsiveness to satisfaction path increases**
- **c. Environmental responsiveness to purchase intentions path increases**
Expert testimonials are presumed to be the most effective form of promotions because not only is the information from an unbiased third party, it is also from a party that has expertise in the product area. The proposed second most effective promotion type for sustainable products is word of mouth because it is also from an unbiased third party. However, since word of mouth is not always from a party that has expertise, expert testimonials are viewed as being more effective. The third most effective promotion is public relations because it also comes from an unbiased third party. However, it is less effective than expert testimonials because of the lack of expertise and it is generally less effective than word of mouth because it is from a public source (Silverman 2001). The proposed least effective form of promotion is advertising because it is not unbiased media as it is directly created by and paid for by the organization being promoted. Therefore, it is hypothesized that quality, satisfaction and purchase intentions will be most influenced by expert testimonials, followed by word of mouth, public relations and lastly by advertising (see Figure 3.1).

**H5**: The effect of environmental responsiveness on quality, satisfaction and purchase intentions is most influenced by expert testimonials, followed by word of mouth, public relations and advertising, respectively.

The effectiveness of different promotional strategies for “green” products has not been previously investigated, and therefore, the research findings address a timely gap in the literature. The following mode is proposed to test these relationships.
Methods

The data are collected with self-report questionnaires using an online survey collection website (SurveyMonkey.com). Five surveys are employed in order to test the hypothesized effects across each of the four promotional types (i.e. advertising, public relations, word of mouth and expert testimonials). An additional sample is used as a control group; that is, there was no treatment. The five groups, advertising (n=105), word of mouth (n=100), public relations (n=115), expert testimonials (n=100) and control (n=100), represent a total sample size of 520 participants.

Survey links are distributed by students that are offered extra credit for recruiting non-student respondents. Actual respondents are not provided direct incentives for participating in the study. A stratified sampling approach is used as students are given categorical instructions as to the age and gender of their respondents. Responses are not restricted to a geographical region, as email contacts and snowballing result in responses from across the United States.

Respondents are asked to evaluate one of six organizations: Wal-Mart, Whole Foods, Chevron, Shell, Toyota and Kia. These organizations are selected based on a paired dichotomous relationship. Specifically, Toyota (Global 100 2005) and Kia (AutoBlogGreen 2006) are both car manufacturers and Toyota is generally seen as environmentally responsive, whereas Kia is not. Respectively, the other pairs of

![Figure 3.1: Proposed Model](image-url)
organizations, Chevron (SIRAN 2005) and Shell (Bloggers News Network 2006), and Wal-Mart (SIRAN 2005) and Whole Foods (Global 100 2005), represent organizations generally viewed as more and less environmentally responsive actors respectively with their industries.

The four promotion types (i.e. advertising, public relations, word of mouth and expert testimonials) are evaluated because they are four widely used promotional types identified in the marketing and communication literatures. Advertising is investigated because it is the primary vehicle used by organizations to promote themselves (Grunig and Hunt, 1984). It is also the most widely used form of promotion (Rowley, 1998). Public relations is investigated because it is an unbiased third party source that is usually embedded in media coverage (Ahluwalia et al., 2000; Friestad and Wright, 1994). This research also evaluates word of mouth promotions because these are unbiased non-marketing sources that typically have nothing to gain from endorsing a product (Bone 1995; Bansal and Voyer 2000). Finally, expert testimonials are considered because they are also an unbiased source that purportedly have nothing to gain from endorsing a product. The effectiveness of expert testimonials is distinguished by it having existing expertise in the subject matter (Braverman 2008; Martin, Bhimy and Agee 2002). These four promotional types are chosen based on their prominence in the marketing and communication literatures.

The promotional types are manipulated by use of a scenario at the beginning of each survey (see Appendix B for the actual manipulations) depicting how a specific organization is promoted as sustainable. The advertising scenario states that the firm itself pays for a commercial that states it is sustainable. The word of mouth scenario states that a friend, who works for the selected firm, says that the organization’s products are sustainable. The public relations scenario suggests that a news segment reports that the firm selected offers products that are sustainable. The testimonial scenario indicates that the Director of the U.S. Environmental Protection Agency says that the products of the organization selected are sustainable. The scenarios are the only variance in the four manipulated surveys (i.e. advertising, word of mouth, public relations and expert testimonials). The fifth survey (control) does not feature a scenario and is utilized as a control group.
The item questions for environmental responsiveness, quality, satisfaction and purchase intentions are formatted as seven-point Likert-type scales ranging from (1) strongly disagree to (7) strongly agree. All scales used in the survey are validated (Oliver and Swan, 1989; Zeithaml, Berry and Parasuraman, 1988; Luo and Bhattacharya, 2006; Cude, 1993) in prior research studies (see Appendix A).

The data are analyzed in accordance with the SEM two-step approach of Anderson and Gerbing (1988) using AMOS 6.0. The measurement model is tested using confirmatory factor analysis to establish reliability and convergent and discriminant validity. Causal relationships among the constructs are analyzed using a confirmatory structural model. Demographics of the samples are evaluated using the data analysis program SPSS 15.0.

Demographics

The total sample size for the five groups is 520. Each group has, at least, a sample size of 100 respondents in accordance with SEM standard practices of having approximately five observations per item (Schreiber, 2008). Specifically, the group breakdowns are: control sample (n=100), advertising manipulation sample (n=105), word of mouth manipulation sample (n=100), public relations manipulation sample (n=115) and testimonial manipulation sample (n=100). The most common age range is between 26-35 years (25.0 percent) and the overall gender ratio is approximately evenly distributed. The mode ethnicity is Caucasian (77.5 percent). College graduates (36.7 percent) are the most common education level and the mode income level was $100,000 or more annually (20.8 percent). See Table 3.1 for detailed demographics.
Table 3.1
Demographics

<table>
<thead>
<tr>
<th>Promotion</th>
<th>Overall</th>
<th>Control</th>
<th>Ad</th>
<th>WOM</th>
<th>PR</th>
<th>Testimonial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size (n)</td>
<td>520</td>
<td>100</td>
<td>105</td>
<td>100</td>
<td>115</td>
<td>100</td>
</tr>
</tbody>
</table>

**Age**

- Under 25 years: 22.0% 25.0% 16.2% 22.0% 11.3% 37.0%
- 26 - 35 years: 25.0 26.0 23.8 26.0 20.0 29.0
- 36 - 45 years: 18.5 18.0 24.8 15.0 24.3 8.0
- 46 - 55 years: 21.5 19.0 21.9 26.0 29.6 9.0
- Over 55 years: 13.0 12.0 13.3 11.0 10.4 16.0

**Gender**

- Male: 49.9% 56.0% 31.0% 53.0% 57.4% 51.0%
- Female: 50.1 44.0 69.0 47.0 40.9 48.0

**Ethnicity**

- Caucasian: 77.5% 78.0% 76.2% 78.0% 79.1% 76.0%
- African-American: 6.7 9.0 6.7 5.0 7.8 4.0
- Hispanic: 8.7 5.0 9.3 9.0 7.0 9.0
- Asian-American: 1.3 1.0 1.9 1.0 0.9 2.0
- Native American: 1.1 2.0 0.0 0.0 1.7 1.0
- Other: 4.7 5.0 2.9 7.0 3.5 4.0

**Education**

- Less than high school: 1.3% 0.0% 1.0% 2.0% 1.7% 1.0%
- High school graduate: 8.7 5.0 13.3 9.0 10.4 4.0
- Some college: 30.5 29.0 32.4 30.0 32.2 28.0
- College graduate: 36.7 40.0 34.3 34.0 32.2 44.0
- Some grad school: 8.6 5.0 4.8 13.0 10.4 9.0
- Graduate degree: 14.2 21.0 14.2 12.0 12.2 13.0

**Income/Year**

- $19,999 or less: 10.6% 12.0% 6.7% 12.0% 7.8% 15.0%
- $20,000 - $39,999: 17.2 20.0 12.4 15.0 16.5 17.0
- $40,000 - $59,999: 21.3 18.0 21.9 17.0 20.9 22.0
- $60,000 - $79,999: 18.8 19.0 22.9 14.0 26.1 13.0
- $80,000 - $99,999: 11.3 10.0 12.3 14.0 13.9 13.0
- $100,000 or more: 20.8 21.0 23.8 28.0 13.9 18.0

**Assessing Reliability**

The path loadings of the aggregate measurement model are used to test for construct reliability (Nunnally, 1979). All of the items for each construct in the model are well above the accepted level of 0.70 (Cronbach, 1951), ranging from 0.95 (purchase intentions) to 0.98 (environmental responsiveness). Parameter estimates vary from 0.80 to 0.93 for environmental responsiveness, 0.90 to 0.96 for quality, 0.86 to 0.96 for satisfaction, and 0.84 to 0.97 for purchase intentions. A summary of these data are found
in Table 3.2. Based on the data identified, it is concluded that construct reliability is present and therefore it is appropriate to test for construct validity.

<table>
<thead>
<tr>
<th>Table 3.2 Summary Results for the Construct Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-Square=1128.59, df=269</td>
</tr>
<tr>
<td>Scale Items</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Perceived Environmental Responsiveness</strong></td>
</tr>
<tr>
<td>PER1</td>
</tr>
<tr>
<td>PER2</td>
</tr>
<tr>
<td>PER3</td>
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<tr>
<td>PER4</td>
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<td>PER5</td>
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<td>PER6</td>
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<td>PER7</td>
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<td>PER8</td>
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<td>PER9</td>
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<td>PER10</td>
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<tr>
<td>PER11</td>
</tr>
<tr>
<td>PER12</td>
</tr>
<tr>
<td><strong>Quality</strong></td>
</tr>
<tr>
<td>QLTY1</td>
</tr>
<tr>
<td>QLTY2</td>
</tr>
<tr>
<td>QLTY3</td>
</tr>
<tr>
<td>QLTY4</td>
</tr>
<tr>
<td><strong>Satisfaction</strong></td>
</tr>
<tr>
<td>SAT1</td>
</tr>
<tr>
<td>SAT2</td>
</tr>
<tr>
<td>SAT3</td>
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<tr>
<td>SAT4</td>
</tr>
<tr>
<td>SAT5</td>
</tr>
<tr>
<td>SAT6</td>
</tr>
<tr>
<td><strong>Purchase Intentions</strong></td>
</tr>
<tr>
<td>PI1</td>
</tr>
<tr>
<td>PI2</td>
</tr>
<tr>
<td>PI3</td>
</tr>
</tbody>
</table>

**Assessing Validity**

Campbell and Fiske (1959) propose a two-fold approach to establish validity using convergent and discriminant validity. A confirmatory factor analysis of the
aggregate measurement model is conducted to assess convergent validity (Hatcher, 1994). The average variance extracted is 76.9 percent for environmental responsiveness, 86.5 percent for quality, 86.2 percent for satisfaction, and 85.6 percent for purchase intentions (see Table 3.2). Given that all measures are above the accepted level of 0.50 (Segars 1997), convergent validity is supported.

Discriminant validity is tested using a confirmatory factor analysis of the aggregate measurement model (Fornell and Larcker, 1981). The shared variances between the environmental responsiveness scale and all other scales range from 0.47 (purchase intentions) to 0.53 (quality) The shared variances between quality and all other scales range from 0.28 (environmental responsiveness) to 0.51 (satisfaction) Also, the range of shared variances between satisfaction and other scales range from 0.26 (quality) and 0.48 (purchase intentions) Finally, the shared variance between purchase intentions and other scales range from 0.22 (quality) to 0.23 (satisfaction) The variance extracted for all constructs are significantly higher than any of the shared variances and therefore, establishes discriminant validity (see Table 3.3). Since reliability and convergent and discriminant validity of the measurement model is established, it is appropriate to assess the confirmatory structural model.

<table>
<thead>
<tr>
<th>Table 3.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Means. Standard Deviations, Correlations and Measures of Variance Among the Variables</td>
</tr>
<tr>
<td>Construct</td>
</tr>
<tr>
<td>1. Perceived Environmental Responsiveness</td>
</tr>
<tr>
<td>2. Quality</td>
</tr>
<tr>
<td>3. Satisfaction</td>
</tr>
<tr>
<td>4. Purchase intentions</td>
</tr>
</tbody>
</table>

**Notes:** Intercorrelations (two-tail) are presented in the lower triangle of the matrix. The average variance extracted of each scale is depicted in bold face along the diagonal. Shared variances are given in the upper triangle of the matrix.

**Structural Analysis**

The structural model is assessed using the guidelines proposed by Anderson and Gerbing (1988), which uses the approach of comparing chi-squares to assess statistical significance and fit indices to assess the fit of the each model to the data. The overall model fit the data well with a chi-square of 1128.59 (df=269, n=520) and fit statistics of
RFI=0.92, TLI=0.94 and CFI=0.95 at the 0.05 significance level. All the estimates are above the generally accepted level of 0.90 for a good fit (Hu and Bentler, 1999; Netemeyer et al., 2003). The R squared values for quality, satisfaction and purchase intentions are 0.28, 0.37 and 0.33, respectively.

The model fits for the control group and the four promotions are all above or approaching generally accepted levels for a good fit (Hu and Bentler 1999). Given that the sample sizes for the groups range from n=100 to n=115, the fit statistics are potentially underestimated because of the small samples in the control group and individual promotions (J. Anderson and Gerbing, 1988).

The model fits for the control group are RFI=0.85, TLI=0.92 and CFI=0.94 (see Table 3.4), which are above or approaching generally accepted levels for a good model fit (Hu and Bentler 1999). The paths from environmental responsiveness to satisfaction, environmental responsiveness to quality and environmental responsiveness to purchase intentions are all statistically significant. Also, the path from quality to purchase intentions is also supported. However, the path from satisfaction to purchase intentions is not.

The model fits for the advertising manipulation are RFI=0.82, TLI=0.90 and CFI=0.92, also above or approaching generally accepted levels of 0.90 (see Table 3.4). The direct relationships from environmental responsiveness to quality, satisfaction and purchase intentions are all supported, similar to the control group. However, the relationship between quality and purchase intentions is not supported, whereas the relationship between satisfaction and purchase intentions is, which is in contrast to the findings in the control group. This indicates that advertising is tapping into the effective (satisfaction) side of “green” products.

The public relations model fits are RFI=0.81, TLI=0.90 and CFI=0.91, which are above or approaching the generally accepted level of 0.90 (Hu and Bentler, 1999; Netemeyer et al., 2003). Many relationships supported in the control group are not supported in the public relations manipulation such as the relationship between environmental responsiveness and satisfaction, environmental responsiveness and purchase intentions and quality and purchase intentions. However, the relationship
between satisfaction and purchase intentions is supported by public relations, which is not supported in the control group (see Table 3.4).

The model fit statistics for the word of mouth manipulation are RFI=0.71, TLI=0.76 and CFI=0.81. These fits are approaching generally accepted levels for a good fit (Hu and Bentler 1999). The relationships in the word of mouth manipulation mirror the findings of the control group with the exception that the path between environmental responsiveness and purchase intentions is not supported (see Table 3.4), whereas in the control group this relationship is supported.

The expert testimonial manipulation model fit statistics are RFI=0.83, TLI=0.91, and CFI=0.92, which are above or approaching the generally accepted level for a good fit of 0.90. The expert testimonial group also mirrored the control group (see Table 3.4), with the exception of the relationship between quality and satisfaction not being supported, whereas in the control group this relationship is supported.

Overall, variations are found from comparing the control group across the different promotions. This implies that the promotions do have an effect on the proposed model.

![Figure 3.2: Overall Model](image-url)
Figure 3.3: Control Group

Figure 3.4: Advertising

Figure 3.5: Public Relations
Figure 3.6: Word of Mouth

Environmental Responsiveness → Quality: 0.47**** (4.73)
Quality → Satisfaction: 0.21** (1.85)
Satisfaction → Purchase Intentions: 0.44**** (4.80)

*p<0.10, **p<0.05, ***p<0.01, ****p<0.001

Figure 3.7: Expert Testimonials

Environmental Responsiveness → Quality: 0.56**** (5.61)
Quality → Satisfaction: 0.27** (2.14)
Satisfaction → Purchase Intentions: 0.06 (0.60)

*p<0.10, **p<0.05, ***p<0.01, ****p<0.001
### Table 3.4
Results of Model Testing in the Four Promotion Samples and Control Sample

<table>
<thead>
<tr>
<th>Promotion Path</th>
<th>Loading</th>
<th>R Squared</th>
<th>Fit Indices</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall</strong> n=520</td>
<td>PER $\rightarrow$ QLY 0.53 (12.03)***** 0.28 (QLY)</td>
<td>$\chi^2=1128.59$, df=269</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PER $\rightarrow$ SAT 0.39 (8.48)***** 0.37 (SAT)</td>
<td>RFI=0.92</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PER $\rightarrow$ PI 0.21 (4.38)***** 0.33 (PI)</td>
<td>TLI=0.94</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QLY $\rightarrow$ SAT 0.31 (7.01)*****</td>
<td>CFI=0.95</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QLY $\rightarrow$ PI 0.22 (4.69)*****</td>
<td>RMSEA=0.08</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAT $\rightarrow$ PI 0.25 (5.18)*****</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Control</strong> n=100</td>
<td>PER $\rightarrow$ QLY 0.52 (5.39)***** 0.27 (QLY)</td>
<td>$\chi^2=501.05$, df=371</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PER $\rightarrow$ SAT 0.40 (4.90)***** 0.41 (SAT)</td>
<td>RFI=0.85</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PER $\rightarrow$ PI 0.29 (2.54)*** 0.34 (PI)</td>
<td>TLI=0.92</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QLY $\rightarrow$ SAT 0.24 (2.48)***</td>
<td>CFI=0.94</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QLY $\rightarrow$ PI 0.31 (2.98)***</td>
<td>RMSEA=0.09</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAT $\rightarrow$ PI 0.09 (0.80)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ad</strong> n=105</td>
<td>PER $\rightarrow$ QLY 0.49 (4.74)***** 0.24 (QLY)</td>
<td>$\chi^2=543.49$, df=366</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PER $\rightarrow$ SAT 0.22 (2.18)** 0.30 (SAT)</td>
<td>RFI=0.82</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PER $\rightarrow$ PI 0.28 (3.02)*** 0.47 (PI)</td>
<td>TLI=0.90</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QLY $\rightarrow$ SAT 0.40 (3.90)***</td>
<td>CFI=0.92</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QLY $\rightarrow$ PI 0.19 (1.95)**</td>
<td>RMSEA=0.09</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAT $\rightarrow$ PI 0.37 (3.96)*****</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PR</strong> n=115</td>
<td>PER $\rightarrow$ QLY 0.56 (6.00)***** 0.31 (QLY)</td>
<td>$\chi^2=544.81$, df=350</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PER $\rightarrow$ SAT 0.20 (1.95)** 0.26 (SAT)</td>
<td>RFI=0.81</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PER $\rightarrow$ PI 0.17 (1.63)* 0.33 (PI)</td>
<td>TLI=0.90</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QLY $\rightarrow$ SAT 0.37 (3.43)***</td>
<td>CFI=0.91</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QLY $\rightarrow$ PI 0.06 (0.54)</td>
<td>RMSEA=0.09</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAT $\rightarrow$ PI 0.45 (4.58)*****</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>WOM</strong> n=100</td>
<td>PER $\rightarrow$ QLY 0.47 (4.73)***** 0.22 (QLY)</td>
<td>$\chi^2=547.62$, df=361</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PER $\rightarrow$ SAT 0.35 (3.75)*** 0.45 (SAT)</td>
<td>RFI=0.71</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PER $\rightarrow$ PI 0.21 (1.85)** 0.24 (PI)</td>
<td>TLI=0.76</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QLY $\rightarrow$ SAT 0.44 (4.80)***</td>
<td>CFI=0.81</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QLY $\rightarrow$ PI 0.26 (2.26)**</td>
<td>RMSEA=0.17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAT $\rightarrow$ PI 0.13 (1.02)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Testimonial</strong> n=100</td>
<td>PER $\rightarrow$ QLY 0.56 (5.61)***** 0.31 (QLY)</td>
<td>$\chi^2=561.34$, df=371</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PER $\rightarrow$ SAT 0.62 (5.72)***** 0.43 (SAT)</td>
<td>RFI=0.83</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PER $\rightarrow$ PI 0.27 (2.14)** 0.35 (PI)</td>
<td>TLI=0.91</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QLY $\rightarrow$ SAT 0.06 (0.60)</td>
<td>CFI=0.92</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QLY $\rightarrow$ PI 0.26 (2.50)***</td>
<td>RMSEA=0.10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAT $\rightarrow$ PI 0.17 (1.51)*</td>
<td></td>
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</tr>
</tbody>
</table>

*p<0.10, **p<0.05, ***p<0.01, ****p<0.001*
Discussion

The objective of this research is to determine which type of promotion (i.e. advertising, public relations, word of mouth or expert testimonials) is most effective in increasing consumers’ perceptions of quality and satisfaction and increasing their purchasing intentions when considering an environmentally responsive organization. This objective is achieved by extending Cronin, Brady and Hult’s (2000) model of quality, satisfaction and purchase intentions by framing it in the context of an environmentally responsive organization, and then testing the different promotions on the model.

The control group suggests that environmental responsiveness has approximately the same positive affect on quality and satisfaction. It also suggests that environmental responsiveness has a direct impact on purchase intentions. The mediated relationship of environmental responsiveness and purchase intentions through quality also suggest practical significance, but the mediation through satisfaction does not. This suggests that while an organization’s environmental responsiveness leads to customer satisfaction with its products, it does not necessarily lead to increased purchase intentions.

Comparing the control model to the advertising manipulations, several differences are apparent. First, the relationship between environmental responsiveness and quality is virtually unaffected, which is surprising since research suggests that advertising’s main benefit is increasing product quality perceptions (Milgrom and Roberts 1987). Also, the relationship between environmental responsiveness and satisfaction is actually weakened in the advertising group. One potential explanation may be because many consumers question whether “green” claims are genuine (Roberts 1996). This suggests that advertising may elicit this doubt since advertising is paid for by the supposive environmentally responsive organization.

The relationships in the public relations group also differ from the control group in several ways and mirror many of the findings in the advertising group. The relationship between environmental responsiveness and quality remained unchanged from the control group. However, the relationships between environmental responsiveness and satisfaction, and environmental responsiveness and purchase intentions are weakened to the point of not having statistical significant. This suggests that public relations is not an effective strategy for environmentally responsive
organizations seeking to increase consumers’ assessments of satisfaction or intentions to purchase.

Several differences are apparent when comparing the control group with the word of mouth promotion. First, the relationship between environmental responsiveness and quality remains unaffected. However, the relationship between environmental responsiveness and satisfaction is weakened considerably and the relationship between environmental responsiveness and purchase intentions becomes statistically insignificant. This also suggests that word of mouth is also not an effective tool in increasing satisfaction and purchase intentions when considering an environmentally responsive organization.

Comparing the expert testimonial group with the control group, several interesting findings are apparent. The most interesting finding being that the relationship between environmental responsiveness and satisfaction is strengthened. This may be because the expertise of the testimony lends credibility to “green” claims made by an environmentally responsive organization that most consumers are often skeptical about believing (Roberts 1996). Mercer (1996) states that the ideal communication is between an expert and a customer, and that any other form of promotion can, at best, hope to be an approximation of this relationship. This suggests that having an expert confirm environmental claims lends to the credibility of the claim (Kelman and Hovland 1953) as the lack of trust in environmental claims is identified as a major barrier to environmental consumer behavior (Mainieri, Barnett, Valdero, Unipan and Oskamp 1997). Therefore, it is argued that the source credibility inherent in expert testimonials leads consumers to trust environmental claims, which as a consequence, leads to more satisfaction with the environmentally responsive organization.

Another interesting finding in the expert testimonial group is that while the relationship between environmental responsiveness and satisfaction is strengthened, the relationship between environmental responsiveness and quality is also maintained. This implies that expert testimonials increase consumers’ cognitive assessments of high quality while increasing their affective response of satisfaction as well. A possible explanation for this may be because expert testimonials include elements of both credibility and expertise. The expertise of a testimonial on a product or company assures
consumers of the quality of the product, while the credibility of the expert testimonial eases consumers’ minds with the lack of trust in environmental claims, which leads to higher affective responses (Mainieri, Barnett, Valdero, Unipan and Oskamp 1997). Therefore, expert testimonials could be a key promotional strategy for environmentally responsive organizations aiming to maximize these assessments and outcomes.

One overall finding is that the relationship between environmental responsiveness and quality is statistically significant in the control group and all four promotional groups. This suggests that consumers’ perceive “green” products as being of high quality. Quality is traditionally defined as technological excellence (Oliver 1997). Therefore, the results imply that consumers who perceive “green” products as being more technologically inclined are more likely to buy them. These findings also imply that different promotional strategies do not have a significant bearing on whether consumers perceive a sustainable product as being of high quality. This is a significant finding for both organizational strategy, academics and government, as it gives insight as to why consumers purchase sustainable products.

Another overall finding is that advertising, public relations and word of mouth all weakened the relationship between environmentally responsiveness and satisfaction. This may be due to these promotions lacking inherent credibility in the source, and therefore, reducing consumers’ trust in the claim (Mainieri, Barnett, Valdero, Unipan and Oskamp 1997) which leads to a lower fulfillment responses (Oliver 1980). This may indicate that credibility plays a mediating role between environmentally responsive products and satisfaction. Providing further justification for this claim is the fact that expert testimonial is the sole promotional type that increases satisfaction with environmentally responsive organizations. Expert testimonials are viewed as a highly credible source of information (Kelman and Hovland 1953) and sometimes are even more convincing than actual facts (Brosins and Bathelt 1994). These findings coupled together makes a compelling argument that source credibility plays an important role on whether an environmentally responsive organization’s sustainable claims will be viewed as believable and whether they will lead to consumer satisfaction.
Conclusions

The objective of this research is to evaluate the effects of different promotions (i.e. advertising, public relations, word of mouth and expert testimonials) on quality, satisfaction and purchase intentions when embedded in an environmentally responsive context. This objective is accomplished and several insights are gained.

The research suggests that the promotion of an environmentally responsive organization through advertising, public relations and word of mouth does not have practically significant effects on the consumers’ perceptions of quality. Also, these three promotions suggest a weakened relationship with satisfaction. This may be because of the lack of credibility or trust in the promotional source.

The only promotional type that suggests practical significance is expert testimonials. The research reveals that expert testimonials increase consumers’ satisfaction with environmentally responsive organizations and products, while maintaining the positive relationship with quality. This implies that when expertise and credibility are present, satisfaction and quality perceptions are favorably effected. However, if they are not present, as in the other promotions, than it is likely that no effect or a weakened effect may occur.

Managerial Implications

Three primary managerial implications are drawn from this research. First, this research suggests that being an environmentally responsive organization leads to positive intentions to purchase its products regardless of the lack or presence of promotions. This is an encouraging finding for managers who are considering adopting an environmentally responsive positioning.

Second, the findings suggest that being an environmentally responsive organization leads to high quality assessments. However, these quality assessments are not highly effected by the lack or presence of promotions or by different types of promotions. Therefore, managers should consider high quality perceptions being a benefit of pursuing environmentally responsive positioning, yet they should not make this a focal point of a marketing strategy, given the results of these findings.

Third, the research suggests that expert testimonials increase satisfaction with environmentally responsive organizations while maintaining quality perceptions. It is
posited that source credibility is a possible reason for this finding. Therefore, managers need to consider source credibility when planning marketing strategies for their “green” products. Managers should also consider this promotion type as a strategic vehicle to increase consumers’ satisfaction with their “green” products.

**Limitations and Future Research**

There are several limitations that need to be acknowledged. First, this research is based on scenarios which may not accurately depict real promotional settings, and therefore, the findings are not highly generalizable to all promotional settings. Also, only six industries and four promotion types are considered, which may also limit the generalizability of the findings. The research did not involve any manipulations, and therefore, true causal relationships cannot be established between the constructs. Finally, possible mediators, such as credibility and trust, are omitted from the model, which may obscure the current findings.

Future research is warranted to validate or refute the findings in this study. Also, research needs to be conducted to investigate possible constructs, such as credibility, trust, involvement and industry, which may mediate the relationship investigated. This research is one of the first attempts to investigate promotional strategies’ impact on “green” behavioral intentions.

This research suggests advertising, public relations and word of mouth weaken the relationship between environmental responsiveness and satisfaction. There is no current literature to explain this phenomenon. One area for future research should consider this notion and investigate potential causes behind this counterintuitive finding. The research focuses on the direct effects on environmental responsiveness on satisfaction and quality, which shows that expert testimonials are the overall most effective promotional type. However, if this was focusing on the direct effects of environmental responsiveness on purchase intentions, the findings would suggest that advertising is the most effective form of promotion. This research did not address this because there are many other constructs effecting purchasing intentions such as value, knowledge and experience, which this research did not measure, and, therefore, it would not be appropriate to draw conclusions since the model would be underrepresented. An area for future research would be to investigate these relationships and their effects.
CONCLUSION

This research investigates whether the effects of an organization’s perceived environmental responsiveness on consumer assessments and outcomes. Specifically, it addresses whether being perceived as environmentally responsive leads to increased consumer perceptions of quality and satisfaction and whether this increases purchasing intentions. The effectiveness of different promotional strategies (i.e. advertising, public relations, word of mouth and expert testimonials) on the relationship between environmental responsiveness, quality, satisfaction and purchase intentions is then investigated.

The findings suggest that being perceived as environmentally responsive leads to increased quality, satisfaction and purchase intentions. Furthermore, environmentally responsive has the strongest effect on quality, which may be because environmentally responsive organizations’ products are perceived as being technologically advanced, which quality is traditionally defined as being technologically excellent. The findings also suggest that different promotions (i.e. advertising, public relations, word of mouth and expert testimonials) have different effects on these relationships. Overall, quality assessments were not effected by any of the promotions. Furthermore, satisfaction responses in the advertising, public relations and word of mouth promotions were weakened. The only promotion that increased satisfaction responses are expert testimonials, which may be because it is the only promotion that has elements of credibility and expertise.
APPENDIX A

VALIDATED SCALES

**Perceived Environmental Responsiveness** (adapted from Cude 1993)
This firm attempts to meet the needs of today's customers without compromising the needs of subsequent generations.
This firm’s actions are “green.”
This firm attempts to do more while using fewer resources.
This firm is attempting to conserve our natural resources.
This firm is environmentally friendly.
This firm conserves valuable resources.
This firm’s products are sustainable.
This firm’s products meet the needs of today's customers without compromising the needs of subsequent generations.
This firm’s products conserve valuable resources.
This firm’s products are “green.”
This firm’s products do more while using fewer resources.
This firm’s products are environmentally friendly.

**Purchase Intentions** (adapted from Zeithaml, Berry, and Parasuraman 1988)
I will purchase this organization's product again.
I will do business with this organization in the future.
I will do more business with this organization in the next few years.

**Quality** (adapted from Luo and Bhattacharya 2006)
Their products are of excellent quality.
Their products are superior to competitors'.
Their products are of high quality.
Their products are one of the best.

**Satisfaction** (adapted from Oliver and Swan 1989)
Enjoyment
Joy
Pleasure
Happiness
Pleased
Pleasure
APPENDIX B

SCENARIOS FOR FOUR SAMPLES

Control Sample
The survey above is representative of the control sample. All surveys, for every sample, had identical questions. The difference between each group was a different scenario was presented at the beginning of the survey, before respondents answered questions pertaining to an organization. The difference in the control sample is that no scenario was presented before respondents answered questions. The scenarios for the four promotion samples are below.

Advertisement Scenario
In answering the following questions, imagine that you had just viewed an advertisement produced and paid for by the company you identified above. That ad promoted the company's efforts to offer "green" products to consumers. The ad featured a spokesperson that suggested being "green" is now an important part of this organization's mission. The ad went on to identify specific ways in which its products were now environmentally friendly. Specific examples were offered as to the ways the firm's products were reducing energy consumption, air and water pollution, and otherwise reducing their carbon footprint. The ad also promoted the company's efforts to improve the health and overall quality of life of their customers.

Word of Mouth Scenario
In answering the following questions, imagine that you have just had a conversation with your best friend about the company you identified above. In that conversation, your friend, who works for the company identified, promoted the firm's efforts to offer "green" products to consumers. The friend suggested that being "green" is now an important part of the organization's mission. The friend went on to identify specific ways in which the company's products are now environmentally friendly. The friend even offered specific examples of the ways the firm's products are reducing energy consumption, air and water pollution, and otherwise limiting the firm's carbon footprint. The friend also promoted the company's efforts to improve the health and overall quality of life of their customers.

Public Relations Scenario
In answering the following questions, imagine that you had just viewed a special segment "Green Marketing" that aired on your favorite television network's nightly news program. Hosted by your favorite news anchor, the segment promoted the identified company's efforts to offer "green" products to consumers. The segment suggested that being "green" is now an important part of this organization's mission. The spokesperson identified specific ways in which the firm's products are now being made environmentally friendly. Specific examples were identified as to the ways the firm's products are reducing energy consumption, air and water pollution, and otherwise reducing their carbon footprint. The company's efforts to improve the health and overall quality of life of their customers were also highlighted.
Testimonial Scenario
In answering the following questions, imagine that you had just viewed a "Green Marketing" testimonial that aired on your favorite television. The segment featured the Director of the US Environmental Protection Agency (EPA). The EPA Director promoted the identified company's efforts to offer "green" products to consumers. The EPA Director suggested that being "green" is now an important part of this organization's mission. The EPA Director also identified specific ways in which the firm's products are now being made environmentally friendly. Specific examples were identified as to the ways the firm's products are limiting energy consumption, air and water pollution, and otherwise reducing their carbon footprint. The company's efforts to improve the health and overall quality of life of their customers were also highlighted by the Director.

Control Sample
The control survey is represented by the survey above. Every survey contained the same questions; however the control sample contained no scenario.
APPENDIX C

SUSTAINABILITY SURVEY

**Consent Form for:** An Investigation of Promotion in Sustainability Oriented Marketing Strategies

Investigator: Jacquelyn Bybee
Email: jrb03f@cob.fsu.edu
Phone: 850-644-5095

Major Professor: Dr. Jay Rayburn
Email: jrayburn@fsu.edu
Phone: 850-644-8750

Co-Chair: Dr. J. Joseph Cronin
Email: jcronin@cob.fsu.edu
Phone: 850-644-7858

If you have any concerns about your rights, you can also contact the Chair of the Human Subjects Committee, Institutional Review Board, Florida State University, through the Office of the Vice President of Research at 850-644-8663 or email jjcooper@fsu.edu.

Thank you for agreeing to participate in this research, which will take place from July 31, 2008 to August 7, 2008. Your individual participation in this study should take **approximately 15-20 minutes** and can be taken at your discretion, as it is an online survey. This form outlines the purposes of this research, provides a description of your involvement and rights as a participant.

The purposes of this research are:

1) To gain insight and experience into using sustainability as a viable marketing and promotional strategy for companies across various industries.

2) To gain insight into what type of promotional strategy is most effective in convincing consumers that a product is sustainable.

The methods to be used to collect information for this research are explained below. From this information, a thesis will be written about the findings.

1) An online survey will be distributed using SurveyMonkey.com. Methods of distribution will be used through students taking MAR 3700. They will distribute the survey online to potential participants, and in return, they will receive extra credit for collecting surveys.
2) The research aims to collect 400 responses. After these responses are collected, the data will be imported in SPSS, a statistical database, to be analyzed for significant findings.

3) Any significant findings will be reported in the thesis, which will be completed and be able to be reviewed by respondents, if you choose, August 15, 2008.

The risks and benefits for participating in this research are as follows:

1) The risks for participating in this research are minimal. There will be no personal information asked of you, except for demographics, which it is optional to give a response.

2) The personal benefits for participating in this research are also minimal, except to help further knowledge about sustainable promotions in academia and business.

You are encouraged to ask any questions at any time about the nature of the research and the methods being used. Your suggestions and concerns are important; please contact me at the email address and phone number listed above.

The information collected will be used strictly for academic purposes, and will be available to be reviewed, if you so choose. The thesis generated will be available to the academic community at Florida State University and will not be solicited to any other entities.

I guarantee that the following conditions will be met:

1) Your confidentiality will be kept to the extent allowed by law

2) Your name will not be released or used at any point during the collection, analysis or written report of the data. Instead, your response will be assigned a number in SPSS and your name will not be attached to your response, from that point forward.

3) Your participation in this research is voluntary; you have the right to withdraw at any point during the survey, for any reason, without prejudice. If you choose to discontinue the survey, do not submit your responses online. Your name and data will not be collected.

4) You have the option to contact me and request a copy of the final thesis, which I will be happy to provide.

You grant your consent to participate in this study by following the link below to the survey online, and hitting the submission button when you have completed your responses. If you do not wish to grant permission or participate in this research, do not follow the link or hit the submission button at the end of the survey.
Thank you very much for your time and participation in this research.

We are conducting a survey to assess the importance of a number of factors on consumers' decision making. Your answers will help us evaluate how organizations can better meet the needs of consumers. Your candor in answering the questions that follow is greatly appreciated.

1. If you are completing the survey for a student in MAR 3700, please type in the name of that student here.

2. What is your first name and email address? (This information will be used only to randomly confirm survey completions and will remain confidential)

3. The organization I am evaluating is:

   Chevron       Kia       Walmart       Toyota       Whole Foods, Inc.       Shell

4. These questions concern your level of experience or expertise with the types of products produced by the company you checked in Question 3. Please circle the response that best reflects your level of agreement with the statements that follow. (measured on a 7 point Likert-type scale)

   I consider myself an expert relative to the products offered by this firm.
   I have a great deal of experience with the kinds of products offered by this firm.
   I generally know more than my friends about the types of products sold by this firm.
   I have a great deal of knowledge about the types of products made by this firm.

5. These questions concern how fair you perceive the organization you checked above to be in its dealings with consumers. Please circle the response that best reflects your level of agreement with the statements that follow. (measured on a 7 point Likert-type scale)

   The outcome I receive is fair.
   I get what I deserve.
   They treat me fairly.
   They get it right.
   They and I benefit equally.
   The deal I receive is fair.
   They treat all customers fairly.
   Customer outcomes are always fair.
   Customer outcomes are always positive.
The outcome was positive.

6. Please circle the response that best reflects your level of agreement with the following descriptions of the organization identified in Question 3.
   (measured on a 7 point Likert-type scale)

   Their products are of excellent quality.
   Their products are superior to competitors'.
   Their products are of high quality.
   Their products are one of the best.

7. Please circle the response that best reflects the degree to which you feel the following emotions when using the products of the organization identified in Question 3.
   (measured on a 7 point Likert-type scale)

   Enjoyment
   Joy
   Pleasure
   Happiness
   Pleased

8. These questions concern the fairness of the procedures of the organization identified in Question 3. Please circle the response that best reflects your level of agreement with the following statements.
   (measured on a 7 point Likert-type scale)

   The organization responds quickly to my needs.
   The company has fair customer policies and practices.
   With respect to policies and procedures, they treat me fairly.
   The firm's processes are fair.
   Compared to others, my concerns were taken into account fairly.
   Their procedures for establishing customer priorities are fair.
   Overall, the procedures used by this firm are fair.

9. Please circle the response that best reflects your level of agreement with your attitude towards the organization identified in Question 3.
   (measured on a 7 point Likert-type scale)

   I think buying this organization's products is wise.
   My overall attitude towards this organization is positive.
   I think buying this organization's products is rational.
   If you are reading this question check strongly disagree.
   I think buying this organization's products is pleasant.
   I think buying this organization's products is beneficial.
10. These questions discuss your feelings of trust in the organization and its employees. Please circle the response that best reflects your level of agreement with each statement. 
(measured on a 7 point Likert-type scale)

This firm can be trusted at all times.
This firm can be depended on to do what is right.
This firm has high integrity.
This firm is competent.
This firm is very dependable.
This firm is responsive.
Overall, the employees of this firm have high integrity.
Overall, the employees of this firm are very dependable.
Overall, the employees of this firm are competent.
Overall, the employees of this firm are responsive.

11. These questions concern how fairly the firm's employees treat you. Please circle the response that best reflects your level of agreement with each statement. 
(measured on a 7 point Likert-type scale)

The firm's employees show a real interest in trying to be fair.
The firm's employees treat me in a courteous manner.
The firm's employees work as hard as possible for me.
The firm's employees are honest and ethical in dealing with me.
The firm's employees treat me with respect.
The firm's employees are polite.
I am treated with dignity by this firm's employees.
The firm's employees’ communications with me are appropriate.
The firm's employees give me the courtesy I am due.

12. These questions concern your feelings about your effectiveness as a consumer. Please circle the response that best reflects your level of agreement with each statement. 
(measured on a 7 point Likert-type scale)

It is worthless for the individual consumer to do anything about pollution.
When I buy products, I try to consider how my use of them will effect the environment and other consumers.
Since one person cannot have any effect upon pollution and natural resource problems, it doesn't make any difference what I do.
Each consumer's behavior can have a positive effect on society by purchasing products sold by socially responsible companies.

13. These questions concern the environmental impact of the firm identified in Question 3. Please circle the response that best reflects your level of agreement with each statement.
This firm’s actions are sustainable.
This firm attempts to meet the needs of today's customers without compromising the needs of subsequent generations.
This firm acts in a socially desirable way.
If you are reading this question, leave the answer blank.
This firm’s actions are “green.”
This firm attempts to do more while using fewer resources.
This firm is attempting to conserve our natural resources.
This firm is environmentally friendly.
This firm conserves valuable resources.
This firm’s products are sustainable.
This firm’s products meet the needs of today's customers without compromising the needs of subsequent generations.
This firm’s products are socially desirable.
This firm’s products conserve valuable resources.
This firm’s products are “green.”
This firm’s products do more while using fewer resources.
This firm’s products are environmentally friendly.

14. These questions assess the authenticity of the organization identified in Question 3. Please circle the response that best reflect your level of agreement with each statement.
(measured on a 7 point Likert-type scale)

This company is genuine.
This company has been true to its roots.
This company stands behind its products.
The customers who use this company feel that is not an “imitator.”
This company seems honest.

15. These questions concern your level of satisfaction with the products offered by the organization identified in Question 3. Please circle the response that best reflect your level of agreement with each statement.
(measured on a 7 point Likert-type scale)

I am satisfied with this firm's products.
Consumers who buy this firm's products should be satisfied with their decision.
The choice of this firm's products is a wise one.
Buying this firm's products makes me happy.
I truly enjoy this firm's products.

16. These questions discuss your future intentions based on your last purchase from this organization. Please circle the response that best reflect your level of agreement with each statement.
I will recommend purchasing this organization's products to a friend.
I will say good things about this organization to a friend.
I will encourage friends and relatives to purchase this organization's products.
I will purchase this organization's product again.
I will do business with this organization in the future.
I will do more business with this organization in the next few years.
I will abandon this organization if a competitor offers better prices.
I will continue to do business with this organization if its prices increase somewhat.
I will pay a higher price than competitors charge for the benefits that I currently receive with this organization.
I will be loyal to this organization.
I will consider this organization as my first choice when I purchase this type of service.
I will be dedicated to doing business with this service provider.

17. These questions discuss the value that you received from your last purchase from the organization identified in Question 3. Please circle the response that best reflect your level of agreement with each statement. (measured on a 7 point Likert-type scale)

Based on the price I paid, this firm's products are very economical.
This firm's products are a good value for the money.
This firm's products are considered to be a good buy.
The price I paid for the firm's products is acceptable. The firm's products are a bargain.
The value of the firm's products is a bargain.

18. Please circle the response that best reflects your attitude about this product class.
My overall attitude toward the type of products offered by this firm is... (measured on a 7 point Likert-type scale)

Positive
Favorable
Good

19. Please circle the response that best reflects your attitude about this product class.
I think using this type of product is... (measured on a 7 point Likert-type scale)

Rational
Pleasant
Wise

20. My gender is:
Male    Female

21. My ethnic background is:

Caucasian/White  African American  Hispanic  Asian-American
Native American  Other

22. The highest level of education you have completed is:

Less than a high school graduate  High school graduate  Some college
A four year college degree  Some graduate school  A graduate degree

23. Our annual household income is:

$19,999 or less  $20,000 - $39,999  $40,000 - $59,999
$60,000 - $79,999  $80,000 - $99,999  $100,000 or more

24. My age is:

Under 25 years  26 - 35 years  36 - 45 years
46 - 55 years  55 years and older
APPENDIX D

HUMAN SUBJECTS APPROVAL

Office of the Vice President For Research Human Subjects Committee
Tallahassee, Florida 32306-2742
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 7/29/2008

To: Jacquelyn Bybee

Address: 1110
Dept.: COLLEGE OF BUSINESS

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research
An Investigation of the Effectiveness of Promotion in Sustainability Oriented Marketing Strategies

The application that you submitted to this office in regard to the use of human subjects in the research proposal referenced above has been reviewed by the Human Subjects Committee at its meeting on 07/09/2008. Your project was approved by the Committee.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 7/8/2009 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.
By copy of this memorandum, the Chair of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

Cc: Jay Rayburn, Advisor
HSC No. 2008.1419
REFERENCES


BIOGRAPHICAL SKETCH

Jacquelyn R. Bybee

Jacquelyn R. Bybee was born in Tampa, FL on December 9, 1984. Jacqui was raised in a military family, so she moved extensively during her childhood. For college, she found herself back in Florida, attending Florida State University. During her time as an undergraduate, Jacqui was uncertain what she wanted to pursue. Her passion for understanding people and culture led her to major in Anthropology.

After graduation she worked in the Marketing Department at Florida State University. This sparked her interest in the marketing field. She was soon enrolled in the Integrated Marketing and Management Communication masters program at Florida State University. Her interest in marketing grew throughout her masters program, which led her to apply for the PhD program in marketing at Florida State University.

Jacqui is currently a first year PhD student in marketing program at Florida State University. She plans to continue her research into marketing strategies for sustainable organizations.