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Three Essays on Green Marketing Strategy

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THREE ESSAYS ON GREEN MARKETING STRATEGY

By

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Dedicated to my parents, Mario and Marie Ramirez.
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ABSTRACT

The overall objective of this dissertation is to contribute to the understanding of the impact of environmentally-friendly (a.k.a. “sustainable” or “green”) marketing strategies on consumption behavior. A set of three essays examines the effects of the organizational adoption of green marketing strategies on both purchase intentions and actual consumption. Although a body of literature on green marketing is emerging, it is still in its infancy and lacks coherence and definitive conclusions. Given the exponential increase in the number of green offerings, and the concern exhibited by consumers, industrialists, and scientists about sustainability issues, practitioners and academics alike can benefit from a better understanding of this area of marketing strategy.

The first essay contributes to theory and practice by exploring factors that impede and promote the sale of green offerings. This is accomplished by conducting in-depth interviews. Consumer and organizational respondent perspectives on factors that increase the likelihood of buying green products and, conversely, elements that decrease the quantity of green offerings purchased are sought. By leveraging a qualitative, grounded theory approach, insights into how the promotion of green offerings differs from that of environmentally non-sustainable goods and services are also investigated. Finally, by distilling the findings from these interviews, two conceptual models are developed that managers can use to develop effective green marketing strategies. The frameworks identify constructs and research streams. In summary, the intent of the first essay is to serve as the catalyst for additional empirical inquiry, while also providing insights for the implementation of green marketing strategies.

The second essay is a multi-stage effort designed to operationalize customer perceptions of a firm’s environmental-sensitivity, or green market orientation. First, a literature review is conducted in order to identify a theoretical foundation for the green market orientation construct. Next, a qualitative study featuring in-depth interviews is undertaken to generate a pool of survey items to measure the green market orientation construct. The items are then subjected to a purification process (cf. Churchill 1979). Once developed, the scale is used to assess perceptions of a firm’s level of green market orientation. By casting the construct relative to several managerially relevant variables, its nomological validity is assessed. In particular, a mediated model of the impact of green market orientation on consumer outcomes is estimated. Thus, the
essay contributes to theory by developing a green market orientation scale from a consumer’s perspective. The essay also contributes to practice by testing the effects of the implementation of such a strategy on consumer outcomes.

Using an experiment, quasi-experimental design, and a structural equation model, the third essay examines the effects of an integrated marketing communications (IMC) campaign on changes in consumption and consumer attitudes. More specifically, using three studies, the essay contributes to practice by testing the effects of the implementation of a green promotional “treatment” on consumer behaviors. The essay also contributes to theory by testing the effects of two newly devised scales on a measure of consumer attitudes. The results provide information regarding the utility of promoting the firm as having adopted a green marketing strategy on shaping customer behaviors.

Finally, a summary chapter (chapter six) is included that provides an overview of what was accomplished in the dissertation. The chapter essentially outlines what the findings were, how the findings influence theory and practice, and how future research can build on the findings. Specifically, the summary describes the literature review which outlines what is known and what is not known about sustainable marketing strategy. The summary also explains the research findings from Essay 1, which develops two conceptual models that show the factors that influence the adoption of green goods and services. In addition, the summary describes how Essay 2 tests the effects of a green market orientation on consumer attitudes. Finally, it describes how Essay 3 tests the effects of a green IMC on consumer attitudes and consumption patterns.
CHAPTER 1

INTRODUCTION

Since the landmark publication of Meadows, Meadows, Randers, and Behrens’ *Limits to Growth* in 1972, consumers, industrialists, academicians, and policy makers have increasingly recognized the perilous path on which consumption patterns place our planet. This grim outlook is affirmed by the increase in the production and consumption of “green” offerings (e.g., those portrayed as having a minimal impact on the environment and hence the long-term viability [sustainability] of the planet.) (Ottman 1998). The level of concern for green business practices has ebbed and flowed as a function of both global economic trends and the emergence of technology. However, recent studies stress that, despite the strides made, the current consumption trajectory could result in grievous environmental consequences (Chamorro, Rubio, and Miranda 2007; Meadows, Randers, and Meadows 2004).

Recently, escalating oil prices, predictions of impending shortages, and the indelible impact of modern consumption patterns on the environment have pushed sustainability issues to the forefront (Kasulis, Heuttner, and Dikeman 1981; Jones 2008; Ottman 1992; Ottman 1998; Walsh 2008). Jones (2008) advocates the cultivation of a green economy, one that not only limits negative externalities, but also engenders wealth creation and allows for an egalitarian distribution of opportunities. Others find that consumers are demanding green options and are willing to pay a price premium (Klassen and McLaughlin 1996; Rowlands, Parker, and Scott 2002). Interest in green marketing is not only justified by mounting demand, but it also is hailed by many as a panacea for struggling companies (Hart and Milstein 2003; Jones 2008).

The increased interest in green purchasing is reflected in the economy. In 2008, the sale of green goods and services in the US accounted for more than $209 billion. Moreover, sales of green products are projected to eclipse $400 billion by 2010, an annual growth rate in excess of 50 percent (Washington Business Journal 2008). This suggests that the market for sustainable offerings is expanding exponentially. Companies such as Dell, Wal-Mart, and, even Exxon Mobile are redefining their marketing strategies by developing new zero-carbon products, improving transportation efficiencies, and implementing new recycling systems (Hart and Milstein 2003; Fetterman 2006; Walsh 2008). Green marketing strategy not only makes good sense for the environment, it is also proving to be profitable (Russo and Fouts 1997). It has been
so profitable, in fact, that Royal Philips Electronics, where green products accounted for twenty percent of sales in 2007, has announced plans to increase its sale of green offerings (GreenBiz 2008).

Further support for the viability of green marketing strategies is found in the “return on green” exhibited by environmentally-sensitive stock portfolios. The Kiplinger Green 25 is an example. This portfolio returns in excess of 13 percent, exceeding the S&P 500-stock index by ten percentage points (Tanzer 2007). The marketplace is sending a strong signal that companies sensitive to sustainability issues are rewarded.

Successful marketing of green goods and services both reduces the consequences of environmentally non-sustainable business practices and improves organizational performance (Hart and Milstein 2003). However, this research does not assume that green offerings solve all environmental problems, nor are assumptions made about the veracity of reports that point to a looming environmental collapse. In fact, uncertainty about the future of the planet is cited as a driving force in the desire for green offerings (Hart and Christensen 2002; Grinstein and Nisan 2009).

Additionally, while this research recognizes that green marketing represents an economic growth engine, it does not speculate on the magnitude of the resulting growth or the equity of the distribution of the resulting gains and losses. Instead, a cautiously optimistic and pragmatic approach is adopted. The research recognizes that marketing may assist in the resolution of some of the aforementioned issues. The research also can be described as pragmatic in that the research is exploratory, normative, and prescriptive. However, the major objective of this research is to identify how managers can position their firms to reap rewards from the green economy.

In three essays, the research seeks to address the role that marketing can play in filling the demand for green offerings. In the first essay, the barriers faced by firms adopting a green orientation are identified. More specifically, through a qualitative analysis of twenty consumer and twenty management interviews, Essay 1 seeks to identify the obstacles to marketing green products. It should be noted that the grounded theory approach to developing models, unlike techniques that rely on stochastic modeling, do not require large sample sizes (for examples and an extensive discussion of this method, see Bendapudi and Leone 2002; Morgan, Anderson, and Mittal 2005; Ringberg, Odekerken-Schroder, and Christensen 2007; Zeithaml 1988). Essay 1’s
objective is to identify those factors about a firm and its offerings that stimulate green purchase behaviors.

The second essay assesses consumers’ perceptions of a firm’s green orientation and the utility of adopting such an orientation. In other words, the second essay seeks to understand if the adoption of a “green market orientation” results in increased sales of green goods and services. Using moderation analysis, consumers’ perceptions of a firm’s authenticity are evaluated. Insight into how consumers react to firms that fraudulently portray themselves as green is also provided.

Finally, in the third essay, the impact of a green marketing strategy is tested using actual purchasing behaviors. Whether the initiation and promotion of a green marketing strategy results in actual changes in consumption patterns is addressed (Grinstein and Nisan 2009). Essay 3 also explores psychographic and demographic factors that make an organization’s “greenness” more salient. This information is useful to managers seeking to refine promotional efforts and for estimating the costs of doing so.
CHAPTER 2
LITERATURE REVIEW

Sustainable Marketing Strategy Research: What we know and what we need to learn

Abstract

The research presented sets the stage for future inquiry on sustainable marketing strategy (SMS), as it integrates findings from across business disciplines to determine what is currently known and not known about SMS. Leveraging the widely accepted three P’s (planet, people, and profit) framework, it categorizes 311 articles, spanning 105 different journals. The results suggest that although firms consider the natural environment to be a stakeholder, they are challenged by a lack of consumer receptivity to green goods and services. Findings also indicate that firms can use demographic and psychographic profiles to predict the adoption of green offerings. Furthermore, this review suggests that firms implementing an SMS may not reap immediate positive financial returns as a function of doing so. In fact, it indicates that firms may experience a significantly protracted period of losses before these efforts are remunerated. Finally, the findings suggest that the effects of social influences on the adoption of green offerings should be investigated. In addition, it indicates that explorations into the factors that could potentially moderate the relationship between a firm’s adoption of an SMS and its firm-level profitability should also be conducted.

Introduction

Academic interest in sustainable or ‘green’ marketing strategies (SMS) has increased in recent years (Baker and Sinkula 2005; Carter and Rogers 2008; Hall and Vredenburg 2005; Kilbourne and Beckman 1998). Mirroring society’s mounting environmental concern, SMS research’s growth is attributable to consumer sensitivity to environmental issues brought about by escalating fuel prices, evidence of sweeping ecological changes, and the tacit assumption that current consumption patterns place the planet’s longevity at risk (Ehrenfeld 2005; Osterhus

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1 Sustainable or ‘green’ marketing strategies refer to any number of marketing related activities that are undertaken in an environmentally-sensitive manner.
Scholarly interest in SMS also finds its roots in the organizational response to growing consumer demand, as firms have provided the marketplace with green goods and services (Polonsky and Ottman 1998; Varadarajan 1992). In fact, attention to SMS has resulted in the proliferation of special editions on the topic in several academic business journals, such as the *Journal of the Academy of Marketing Science*, the *Journal of Consumer Research*, the *Journal of Public Policy and Marketing*, the *Journal of Business Research*, the *International Journal of Research in Marketing*, the *Journal of Advertising*, the *Journal of Macromarketing*, the *Strategic Management Journal*, and the *Academy of Management Review*. Additionally, it has led to the creation of specialty academic journals, such as *Business Strategy and the Environment* and *Organization and Environment*, which investigate the nexus of environmental and commercial interests (Kilbourne and Beckman 1998). Furthermore, a substantial body of research on the topic has appeared in a number of arguably less well recognized journals (Hult, Neese, and Bradshaw 1997). Thus, scientific attempts to understand the interaction between firms and the environment are increasing, resulting in a host of conceptual analyses and empirical inquiries with many featuring managerially relevant insights.

Research on SMS, however, has been plagued by conflicting findings. Consider that research has simultaneously shown that the adoption of an environmentally-friendly approach to conducting business can represent either a benefit or a burden to the firm (Hillman and Keim 2001; King and Lenox 2002; Porter and van der Linde 1999; Walley and Whitehead 1994). Research has also found that consumers claim to be willing to pay more for sustainable goods and services and yet green product failures abound in the marketplace (Geller 1981; Roberts 1996). Furthermore, research has found inconsistent effects for demographic and psychographic variables on environmentally-friendly consumption behaviors (Downs and Freiden 1983; Schwepeker and Cornwell 1991). These conflicting findings indicate that SMS research is still in a formative stage (cf. Fisk et al. 1993). However, the inability of these efforts to definitively conclude that the adoption of an SMS is worthwhile could result in misguided organizational strategies, while potentially damaging the credibility of this research stream in the process. Thus, the SMS literature base and its inconclusive findings call for efforts to disentangle causal from spurious effects.

The research presented attempts to address these concerns. It contributes to the understanding of the SMS literature by integrating studies from across business disciplines
through a large scale literature review. Specifically, the current research reviews 311 articles from 105 different journals that examine how the implementation of an SMS relates to three primary stakeholders: the company, its customers, and the natural environment (cf. Elkington 1994). By exploring a broad cross-section of the SMS literature, the research presented uncovers what is known and not known about SMS. In addition, it provides avenues for future research efforts that should expand the current knowledge base on the effects of SMS.

This integrative literature review proceeds as follows: First, a section introduces the lenses through which the SMS literature base is examined. A brief sketch of the stakeholders affected by, as well as affecting, commercial pursuits is offered. Second, a section using this framework integrates the major research findings outlined in the literature. This allows for a more lucid understanding of what is currently known about SMS. Finally, at the end of each section, prior research efforts are analyzed for extension opportunities. Accordingly, research propositions that build on pioneering work are put forth. In the next section a brief overview of the data collection and methodological approach used in this review are discussed.

Method

To gain a better understanding of what is known and not know about SMS, a large-scale integrative literature review was conducted using a multistaged process. First, to gather data for this review, a rigorous keyword search of the literature using ABI/Inform Global was undertaken. The keywords ‘sustainable,’ ‘business,’ and ‘environment’ were initially used to generate 567 articles for review. However, articles dealing with unrelated topics, such as those concerning a ‘sustainable competitive advantage’ or the ‘environment’ in a traditional business sense, were eliminated from the analysis, narrowing the scope of the dataset to a total of 311 articles, spanning 105 journals.

In the second stage, articles were grouped according to multiple criteria, including their main subject matter, methodological approach, business sub-discipline, and the constructs employed. With regards to the subject matter, this review used an established framework to categorize these articles. More specifically, each article was classified according to whether it dealt primarily with ‘people,’ ‘profits,’ or ‘the planet’ (Elkington 1994).

The reliability of the author’s classification system was assessed using an inter-rater reliability measure of a random sample from the data (cf. Perreault and Leigh 1989). This
measure represents a coefficient of agreement for classifying nominal data. It was calculated by taking the average of agreement among four judges and the author. The judges included one professor (Dr. Michael Hartline) and three doctoral students (Kelly Cowart, Meredith David, and Stephanie Lawson) who have expertise in marketing strategy and consumer behavior. The results show an agreement of .91, exceeding the recommended .70 threshold (cf. Perreault and Leigh 1989).

With this sizable dataset of articles, an analysis paralleling that used in the grounded theory approach (whereby a theoretical saturation point is reached in the data collection process) was conducted in which closely related or replication studies were eliminated from the discussion (cf. Strauss and Corbin 1998). This allowed the dataset of relevant literature to be reduced. Thus, the final discussion referenced 148 articles from 65 journals.

Planet, People, and Profits

Traditional SMS research investigates how industrial activities affect three key factors: The planet (or the natural environment), people (consumers, customers, employees, managers, and organizational sustainability champions), and profits (firm performance measures) (Banerjee 2002; Elkington 1994; Marshall and Brown 2003). In addition, SMS research examines how these factors influence marketing strategy. The current section briefly introduces these factors and describes how they have been portrayed in the literature. This section also considers how their prominence has influenced marketing strategy.

The publication of Carson’s (1962) *Silent Spring*, Meadows, Meadows, Behren, and Randers (1972) *The Limits to Growth*, and Toffler’s (1970) *Future Shock* ushered in an era of widespread awareness of the looming environmental threat posed by a ‘disposable’ and ‘mass consumption’ society (Baker and Sinkula 2005; Grinstein and Nisan 2009). Coupled with highly publicized environmental disasters, such as the incidents at the Three Mile Island nuclear plant and the Love Canal, such works have drawn consumer attention to the fact that current consumption patterns can have immediate negative effects on local communities (Kollmuss and Agyeman 2002; Meadows et al. 1972; Ottman 1998). In addition, the recent signing of the Kyoto protocol has reinforced the notion that the risks associated with modern consumption patterns is real (Lash and Wellington 2007). In short, a confluence of factors has transformed concern for the *planet* from a fringe activity to a mainstream priority. In the process, these
factors have created a following of environmentally-conscious consumers subscribing to a ‘think globally and act locally’ mentality (Baker and Sinkula 2005; Drumwright 1996; Goldstein et al. 2009). Naturally, this has impacted market oriented firms, as they have endeavored to provide the market with eco-friendly products and services and to operate in an environmentally-conscious manner (Carter and Dresner 2001; Henion 1981; Starik and Rands 1995).

As alluded to above, people have been negatively impacted by unbridled economic growth and the effects that this growth has had on the environment. The tragedy of the commons, which suggests that self-interested parties will destroy shared resources despite the fact that doing so is detrimental to all parties involved, has affected the wellbeing of society and that of future generations (Kilbourne and Carlson 2008). Depleted fisheries, the shrinking polar ice cap, and rising global CO₂ levels represent a clear and present danger for the population (Lash and Wellington 2007; Meadows et al. 1972). Recognizing this situation, informed citizens have banded together to form special interest groups (e.g., the Environmental Defense Fund, Greenpeace) to mitigate business’s flagrant environmental abuses and a continued unwillingness to accept responsibility for the spillover of the related negative externalities (Orsato 2006). In addition, environmentally-sensitive individuals, who demand changes in firms’ environmental policies, have been hired by organizations (Bhattacharya et al. 2008; Henriques and Sadorsky 1999; Kleindorfer et al. 2005). Furthermore, consumers have demanded environmentally-sensitive goods and services (Chen 2001; King and Lenox 2002). In sum, people working in organizations, as well as those consuming goods and services, have been challenged by, and challenge, non-sustainable business practices. Their efforts signal to firms that they should be regarded as an important stakeholder as firms develop sustainable marketing strategies.

As a consequence of research highlighting the potentially detrimental effects of unfettered economic growth, consumers, environmental watchdog groups, and governments have reacted negatively towards business and its seeming environmental ambivalence (Grinstein and Nisan 2009; Zinkhan and Carlson 1995). The publication of the United Nations’ (1987) Our Common Future represents a turning point in the environmental movement as it refers to multiple stakeholders’ common futures (Elkington 1994). In doing so, the UN encouraged a perspective that diverges dramatically from the more radical, anti-business viewpoints which vilified industry for inflicting ‘environmental ills’ on society. Instead, the publication of this document legitimizes the key role that business can play in redressing environmental
degradation, while suggesting that firms’ actions are also instrumental in ensuring that the planet’s inhabitants maintain an acceptable standard of living (Elkington 1994; Lertzman and Vredenburg 2005). This mindset, referred to as the dominant social paradigm (DSP), acknowledges that firms can and should seek profits as they operate in an environmentally-friendly manner (Kilbourne and Carlson 2008). This perspective also suggests that firms can, indeed, contribute to the solution and not just the problem (Moon 2007; Shrivastava 1995).

The SMS literature is now considered.

What is Sustainable Marketing Strategy?

Although a variety of definitions and examples of SMS can be found in the literature, the vast majority of definitions center on the firm operating in an environmentally-responsible manner (cf. Baker and Sinkula 2005; Elkington 1994; Menon and Menon 1997). That is, definitions suggest that firms choosing to embark on an SMS should operate in such a way as to minimize their impact on society and its eco-systems, while simultaneously providing goods and services that are in demand (Hart 1995; Menon and Menon 1997; Varadarajan 1992). Implicit in this definition is the notion that firms should develop green goods and services that not only provide for both hedonic and utilitarian consumption, but that also guard against continued environmental degradation (Buysee and Verbeke 2003; Grove et al. 1996; Polonsky 1995). The following analysis addresses how the literature defines SMS. As alluded to above, SMS is defined in terms of how it affects and is affected by three major stakeholders.

Planet

Research has shown that many firms are aware of the dangers presented by their industrial output, the need for continuous revenue growth, and a mass consumption society (Banerjee 2003; Kilbourne and Beckman 2002; McDonagh 1998). It also suggests that some firms realize that they must play an active role in preventing further environmental degradation (Bansal and Roth 2000). The following discussion outlines the major themes that have been found in the SMS literature that deal with the interface between the firm and the environment with regards to these issues. In particular, research highlighting the barriers faced by firms seeking to protect the planet through the implementation of an SMS is analyzed. Additionally,
studies that evaluate consumers’ impressions of these efforts are also identified. Furthermore, research that categorizes firms relative to their SMS enactment is reviewed. Finally, a brief discussion of research extensions is provided. For a brief overview of the literature, see Table 2.1.

*Barriers to protecting the planet*

The SMS literature suggests that environmental concern is not a fad and that firms are aware of this fact (Bansal and Gao 2006; Prothero 1998). As a result, the literature indicates that business recognizes multiple stakeholders, including the natural environment, when shaping marketing strategy (Rueda-Manzanares et al. 2008). In fact, the literature demonstrates that many firms consider their environmental performance when assessing overall firm performance (Carter and Dresner 2001; Schaltegger and Synnestvedt 2002). The literature also suggests that managers are sometimes compensated for complying with environmental regulations, as well as for voluntarily adopting an SMS (Berrone and Gomez-Mejia 2009; Russo and Harrison 2005). Research provides additional support for the idea that firms are committed to the environment, as many even collaborate with environmental watchdog groups (Stafford and Hartman 1996; Yaziji 2004). In short, the SMS literature suggests that firms seriously consider environmental impact of their efforts when developing strategic and operating plans (Rueda-Manzanares et al. 2008).

As alluded to above, however, research suggests that firms face obstacles to attempts to protect the planet. First, consider that a firm’s ability to guard against further environmental degradation is contingent on the ability to attract new customers. Unfortunately, research shows that firms’ efforts to increase the number of served customers have not always proven to be successful (Geller 1981; Roberts 1996). For example, the literature suggests that organizational efforts to inform consumers about the positive aspects of making a green purchase are oftentimes stymied by consumers’ limited cognitive capacity, the salience of information regarding the product, the dominance of retail sales staff, product availability, and product promotions (McDougall et al. 1981). Additionally, the literature suggests that despite the fact that the overwhelming majority of consumers in the US claim to be environmentally-sensitive and that they state that they would be willing to pay more for green goods and services, there is a disconnect between what consumers say and do (Geller 1981; Roberts 1996). Many consumers also claim that they would be willing to purchase environmentally-friendly goods and services,
as long as the offering in question does not compromise salient product attributes, such as quality, price, and convenience (Meredith Ginsberg and Bloom 2004). As a result, many green goods and services have failed to reach their sales potentials, while some have even been discontinued (Allen et al. 1982; Drumwright 1996; Peattie and Crane 2005).

A second barrier to a firm’s commitment to sustainable development, as documented in the literature, hinges on both organizational capabilities and external factors beyond firms’ control. Bansal (2005), for example, finds that a firm’s management capabilities and organizational slack on the one hand, and fines, penalties, mimicry, and media on the other, impact environmental stewardship (Hart 1995). In addition, the literature indicates that the financial position of the firm, consent of leadership, and the resources allocated to the cause, play a role in promoting environmental protection activities (Henriques and Sadorsky 2006). Finally, research considering the development of the wind power industry and the circumstances surrounding its emergence found that economic, natural, and social influences plays a role (Russo 2003).

A third barrier revolves around what might be described as network effects (Tellis et al. 2009). For instance, research suggests that consumers are willing to adopt sustainable practices (e.g., recycling) if doing so is convenient (Laroche et al. 2001; Meredith Ginsberg and Bloom 2004). Unfortunately, mechanisms are oftentimes not in place to permit end-user convenience (Linton et al. 2007; Zikmund and Stanton 1971). More specifically, a supply network may not be well developed enough to provide services that facilitate adoption, as the return on investment potential to join the network may not provide an adequate stimulus to potential channel members (Zikmund and Stanton 1971).

Fourth, as discussed below, many firms lack an organizational champion to promote an environmental-protection agenda (Bansal 2003). In such cases, not having someone with the necessary organizational clout and political acumen to maneuver an issue from a personal agenda to that of the organization represents a significant barrier to the enactment of such programs. Finally, many firms do not consider implementing a given strategy, unless a competitive advantage in the marketplace is produced. Without this incentive, the likelihood of the firm implementing an SMS is dramatically reduced (Sharma and Vredenburg 1998).

In sum, although firms may genuinely desire to act with environmental stewardship in mind, the SMS literature suggests that they are confronted with barriers to doing so (Hart 1995).
While these barriers are not insurmountable, they have been shown to be challenging. Thus, if firms aim to protect the environment, efforts must be made to overcome these barriers.

Consumers’ impressions of firms’ efforts to protect the planet

Research suggests that firms seeking to protect the planet through their SMS implementations are also challenged by consumers’ receptivity to these efforts. In particular, many consumers doubt whether a firm’s activities and offerings are truly environmentally-sustainable (Mohr et al. 1998). Research suggests that in order for firms to overcome consumer skepticism, a firm should systematically strive to make all business activities more sustainable (Marshall and Brown 2003). Although easier said than done, the literature suggests that efforts at a firm’s ‘greening’ can be accomplished (Hart 1997; Polonsky and Ottman 1998). In fact, the literature discusses measures that have been taken by firms to use alternative and recycled materials in their production functions, to evaluate organizational routines for environmental inefficiencies, and to transform the firm from espousing a product orientation to one centering on less environmentally-impactful services (Marshall and Brown 2003; Rothenberg 2007; Sharma and Henriches 2003). In addition, studies suggest that firms can build credibility, as well as take a more active role in protecting the planet, by divesting environmentally troublesome subsidiaries (Hall and Vredenburg 2005). Furthermore, firms can enlist the assistance of unbiased third-party environmental auditors and environmental watchdog groups to guide them as they streamline their operational processes and develop new products with the environment in mind (Funk 2003; Grankvist et al. 2007; Harris 2007). Finally, the literature suggests that environmental-sensitivity should be incorporated into a product’s whole life-cycle (Albino et al. 2009; Russo and Fouts 1997). That is, firms should ‘engineer’ sustainability features into their products, considering a product’s environmental impact from production to disposal (Grankvist et al. 2007; Harris 2007).

Green firm typologies

Research has attempted to gauge organizational commitment to environmental protection by classifying firms based on their environmental-stewardship (cf. Rivera-Camino 2007; Karna et al. 2002). For example, Buysee and Alain (2003) assessed firms based on their internal
processes in an effort to determine their level of environmental-sensitivity. The resulting typology identified three distinct firm types, including reactive, pollution preventative, and environmental-leadership types. In a related study, Aragón-Correa (1998) developed a classification scheme based on factors both internal and external to the firm. This research revealed five distinct clusters of firms on a continuum of environmental compliance, ranging from non-compliance to environmental excellence. Finally, Albino, Balice, and Dangelico (2009) investigated whether the environmental approaches adopted by sustainability-driven companies were different from those adopted by companies not driven by sustainability concerns. In this process, they categorized firms as taking part in one of four levels of environmental development: green management, material eco-efficiency, energy efficiency, and green supply chain management. In short, the research noted has permitted the classification of firms based on their environmental performance and allowed comparisons of firms and an analysis of the characteristics that differentiate efforts to be made (See Table 2.1).

Conclusions and research extensions

The three themes dominating the SMS literature relative to how firms engage the natural environment provide a window into the barriers faced by firms seeking to limit their impact on the environment, types of firms that make these efforts, and consumer impressions of these efforts. While the literature does present useful insights for both managers and academics, it also offers opportunities for research extensions. For example, although research has shown that firms are challenged by an inability to influence purchasing behaviors, research could investigate if this applies to firms’ abilities to promote other pro-environmental behaviors. Specifically, firms’ abilities to promote recycling, conservation, and consumer boycotts of competing environmentally-irresponsible firms could be studied. Next, whereas research has shown that several internal and external factors influence a firm’s environmental stewardship, could other factors that were not included in these models play a role, as well? In particular, research could study the level of power wielded by intraorganizational groups which pressure firms to improve their environmental performance. With regards to the network effects barrier, studies on the consumer adoption of green goods and services should be undertaken in markets which do not suffer from a lack of appropriate network partners and operations to support adoption. Quasi-experimental designs would work well in this regard, allowing research to pinpoint additional
variables that might influence or hinder adoption. Fourth, although the literature suggests that
organizational champions play an instrumental role in helping a firm actualize a pro-
environmental stance, research should investigate the characteristics of firms which adopt such a
stance and yet lack a champion. Finally, while research does indicate that organizations need to
be appropriately incentivized to adopt a pro-environmental approach, such efforts are currently
limited in scope due to the failure to investigate motivating factors. Perhaps, it should consider
other economic and non-economic motivators. In particular, research could investigate the
effects of disincentives on this type of behavior. Alternatively, research could consider when
firms adopt an SMS as a defensive measure versus one in which it seeks to garner a competitive
advantage.

People

As indicated above, in addition to studying how businesses interact with the natural
environment, SMS research also focuses on people (Banerjee 2002; Bohlen et al. 1993). More
specifically, research in this vein examines how SMS affects both customers and employees.
Conversely, the literature also considers how parties impact firm-level marketing strategies.
Note, however, that the bulk of research centers on how people external to a firm affect the
firm’s tendency to implement an SMS. In particular, research in this stream revolves around
consumers, with relatively few of the studies focused on business-to-business customers (Carter
and Jennings 2004; Chamorro et al. 2009; Choi et al. 2001). Furthermore, the research also
examines how organizational employees and leaders are affected by and affect firms’ SMS. The
following sections detail each in turn. For a brief overview of the literature, see Table 2.2.

Consumers

Research that examines consumer reactions to a firm’s SMS has a relatively long history
(cf. Kassarjian 1971; Kinnear and Taylor 1973; Kinnear et al. 1974). This particular type of
research is perhaps the most widely studied. In fact, of all investigated articles, consumer
behavior studies represented more than 32.4 percent. Articles in the research stream generally
consider how factors, both internal and external to the consumer, impact adoption behavior. In
particular, the work considers how personal attributes (e.g., psychographic and demographic
characteristics) influence the adoption of sustainable goods and services (Balderjahn 1988; Downs and Freiden 1983). Research also considers how businesses encourage consumers’ adoption of sustainable products through the use of positioning (Du et al. 2007; Polonsky and Rosenberger 2001). Specifically, the effects of advertising, labeling, alliances, and the like on consumption patterns are studied (Banerjee et al. 1995; Kangun et al. 1991; Kassarjian 1971).

Factors internal to the consumer

SMS research investigating consumers’ adoption of sustainable goods and services centers on factors that are intrinsic to an individual consumer. In other words, research focuses on internal motivators to adoption. Influenced by marketing’s fundamental notion of segmentation (Smith 1956; Kinnear and Taylor 1973), studies endeavor to classify green consumers by both psychographic (e.g., psychological constructs such as a consumer’s relative level of concern for the environment or social rebelliousness) and demographic factors (e.g., a consumer’s race or age) (cf. Balderjahn 1988; Kinnear et al. 1974; Murphy et al. 1978).

Kinnear and Taylor (1973) created a scale for consumer ecological concern, operationalizing an antecedent to environmentally-friendly consumer behaviors. The study found that perceived consumer effectiveness, understanding, and tolerance positively influenced consumers’ level of environmental concern, and explained 28 percent of the variance in the investigated outcome measure. In a similar fashion, Balderjahn (1988) used structural equation modeling and a sample of 1,241 German consumers to examine the effects of alienation, emotional expressiveness, ideological control, attitudes toward pollution, and attitudes toward ecologically-conscious living, on consumption patterns (e.g., the purchase of home insulation, efforts at energy curtailment, and levels of environmental concern). Results suggest that attitudes towards ecologically-conscious living, age, and alienation are related to environmentally-responsible behaviors.

Bhate and Lawler (1997) examined the effects of psychographic variables on the consumption of green goods and services, while also studying situational and demographic variables. The results suggest that innovators are more apt to purchase environmentally-friendly products than later adopters. Furthermore, the results demonstrate that consumers are willing to pay more for sustainable offerings. The findings also indicate that consumers place a premium on convenience and are thus unlikely to purchase green offerings that place an unwanted burden
on them. In addition, McCarty and Shrum (2001) investigated the role played by individualism, collectivism, and locus of control on pro-environmental behavior. The findings suggest that these factors explained 37.5 percent of the variance in these behaviors. Interestingly, the effects were found to be mediated by convenience and the consumer’s perceptions of the importance of conducting themselves in an environmentally-friendly manner.

Shrum, McCarty, and Lowery (1995) studied the effects of impulse buying, opinion leadership, interest in products, and brand loyalty, on purchase intentions. Using regression models, the research identified $R^2$ values of .099 and .039 for two dependent measures of green purchase intentions (special efforts to purchase green goods and services and efforts to switch brands due to a firm’s level of ‘greenness’). Shrum, Lowery, and McCarty (1994) sought to resolve previously documented conflicting findings on the association between demographics and recycling behaviors. The findings point to consumer values as useful variables for explaining these behaviors. Furthermore, the research suggests that consumer traits, such as locus of control and alienation are useful in explaining and predicting green consumption.

Factors external to the consumer

This section integrates research that investigates factors outside a consumer that, when combined with their individual predilections, influence the adoption of green goods and services. Research in this category studies how green advertising impacts adoption and environmentally-sustainable behaviors (cf. Banerjee et al. 1995; Newell et al. 1998). In addition, it reviews studies that assess the impact that product labeling, which announces an offering’s ‘greenness,’ has on consumer decision making (cf. Grankvist et al. 2007; Hemmelskamp and Brockman 1997; Pedersen and Neergaard 2006). To conclude, the section reviews studies that examine the role that third-party alliances between a firm and a green watchdog group (e.g., Greenpeace, the Sierra Club, etc.) plays on consumers’ evaluations of a firm and offerings (cf. Mendleson and Polonsky 1995; Milne et al. 1996; Polonsky 2001).

To measure the effects of advertising on green consumption patterns, several articles first evaluated the extent to which environmentally-deceptive or ambiguous advertisements were found in the media (cf. Carlson et al. 1993; Davis 1992). For example, Kangun, Carlson, and Grove (1991) examined several print publications (e.g., business, environmental, and newspapers) to explore the relative proliferation of potentially deceptive green advertising. In
the process, a typology for classifying green advertisements was developed. The review suggests that consumers are able to distinguish from among misleading green advertisements and ones that are genuine (Davis 1993). In fact, when faced with a vague ad, consumers are generally left with a negative impression of the advertiser, as such ads are construed as deceptive. Consistent with attribution theory, the negative associations built by deceptive advertisements are then transferred to the offending firm. In short, research suggests that consumers want the truth and specifics in green advertising. Therefore, advertisers should take care when promoting a firm and offerings as environmentally-sensitive.

While there is an abundance of work on the effects of deceptive ads on consumers’ attitudes towards an ad and, consequently, towards a firm, research has also endeavored to determine the efficacy of specific types of appeals (cf. Davis 1994; Lord 1994; Lord and Putrevu 1998). In particular, research has sought to explain the differential effects of advertising appeals and the mechanisms involved to ensure consistent reactions by consumers (Davis 1995; Obermiller 1995). For instance, Davis (1995) tests framing effects (if an ad was stated in terms of ‘losses’ or ‘gains’ [Kahneman and Tversky 1979]) on environmentally-responsible behaviors. The results suggest that the way in which an advertisement is framed significantly influences consumers to take part in green behaviors. In a related study, Obermiller (1995) examines the effects of an advertising appeal stressing the importance of environmental issues with one suggesting that individual action is needed to rectify a problem. The distinction between the two appeals centers on the severity of the crisis and the likelihood of negative consequences. The results suggest that the effectiveness of each type of appeal is contingent on the relative salience of the issue to the participant.

Research on factors external to a consumer also considers the role that green labeling has on purchase behaviors (Anderson and Claxton 1982; Grankvist et al. 2007; Hemmelskamp and Brockman 1997; Pedersen and Neergaard 2006). Defined as unbiased third-party certifications that ensure consumers that a product’s environmental impact from ‘cradle to grave’ is minimal, green labeling has proven to be an effective catalyst for green product adoption (Grankvist et al. 2007; Harris 2007). Research also shows, however, that company-developed environmental labeling efforts are generally met with skepticism (Hemmelskamp and Brockman 1997). Additionally, the literature suggests that green labeling is most effective with consumers who identify with the green movement. Finally, the SMS literature indicates that green labeling
juxtaposed with third-party alliances buoys the effectiveness of such efforts (D’Souza et al. 2006).

As mentioned above, research findings indicate that third-party alliances positively influence consumer perceptions that a firm is genuinely concerned about and has taken measures to reduce the impact of actions on the environment (Mendleson and Polonsky 1995). Joint ventures with watchdog groups, such as Greenpeace, are suggested to reduce consumer cynicism and increase consumer perceptions of organizational credibility (Prendergrast and Thompson 1997). Organizations such as the International Olympic committee have used strategic alliances to quell fears posed by environmentalists regarding the potential impact of the games on the local eco-system (Mendleson and Polonsky 1995). In short, the SMS literature suggests that firm and watchdog group associations are useful in mitigating negative consumer impressions.

Although research suggests that factors external to the consumer can influence behaviors and that the demand for environmentally-friendly goods and services is increasing, it also indicates that consumers have grown increasingly skeptical towards environmental claims (Mohr et al. 1998; Newell et al. 1998). Such results suggest that the seeming consumer disregard for organizational sustainability initiatives, such as the failure of some sustainable products to take-off in the marketplace, may be attributable to their perceptions of a firm’s authenticity (Bloom et al. 2006; Carlson et al. 1993; Peattie and Crane 2005). Thus, a firm’s ability to build consumer trust is instrumental in influencing product purchases, while the literature suggests that firms engaging in activities that engender consumer skepticism have the opposite effect (Rowlands et al. 2002).

SMS research indicates that perceptions that a firm is actually ‘green-washing’ (i.e., disingenuously portraying itself and its offerings as environmentally-friendly) can severely damage the firm’s reputation (Banerjee et al. 2003; Kangun et al. 1991; Polonsky et al. 1997). Additionally, evidence that a firm is more concerned with increasing its profit margins than with protecting the environment can also negatively affect consumer trust and thus impact sales (D’Souza et al. 2006; Prendergrast and Thompson 1997). Accordingly, research suggests that in addition to a firm announcing its efforts to operate in a more sustainable fashion, a firm must be diligent in its efforts to operate in such a manner (Banerjee et al. 2003). In short, SMS research suggests that consumer trust is critical in efforts to influence sustainable consumption behaviors (Osterhus 1997).
**Employees**

Employees have been found to exert pressure on a firm to ‘go green’ and thus also should be considered a stakeholder in the environmental debate (Henriques and Sadorsky 1998; Henriques and Sadorsky 1999). In fact, SMS research on employees suggests that a sense of ethics, ecological-responsibility, and environmental-consciousness serves to motivate involvement in an employer’s sustainability initiatives (Bansal and Roth 2000; Langerak et al. 1998; Prendergast and Thompson 1997). Research also suggests that employee ‘buy-in’ influences an organization’s sustainability strategy, while at the same time demonstrating that organizational factors (e.g., managerial support and organizational subcultures) influence an employee’s propensity to spearhead an organizational, environmental initiative (Bhattacharya et al. 2008; Howard-Grenville 2006; Ramus and Steger 2000). Furthermore, research suggests that firms which maintain a strong commitment to environmental-sensitivity can use this positioning to attract high quality employees (Bhattacharya et al. 2008).

**Managers**

The SMS literature also indicates that organizational leaders play a role in motivating their firms to adopt such strategies (Aragón-Correa et al. 2004; Carter and Dresner 2001; Sharma and Henriques 2003). Since doing so has traditionally been associated with escalating costs, this notion may appear to lie in direct opposition to managers’ overarching mission of increasing profits and protecting shareholder value (Orsato 2006; Walley and Whitehead 1994). Research, however, suggests that is not the case (Berrone and Gomez-Mejia 2009; Porter and van der Linde 1999; Russo and Harrison 2005). Although the development of sustainable offerings has been associated with sacrificing short-term gains and incurring expenses, some managers are adopting a more long-term approach with respect to profits (Carter and Dresner 2001; Porter and van der Linde 1999; Stanwick and Stanwick 2001).

Interestingly, the SMS literature suggests that managers’ personal factors encourage the ‘greening’ of organizations (Egri and Herman 2000; Shrivastava 1995). While concern for personal liability has been recognized as a factor, managers’ societal role perceptions, as well as their ethics, appear to impact efforts to build SMSs into their organizational routines (Sharma
and Henriques 2003; Shrivastava 1995). Additionally, research indicates that managers are oftentimes incentivized to become concerned about organizational environmental performance (Russo and Harrison 2005; Stanwick and Stanwick 2001). Furthermore, research on the topic demonstrates that managers’ cognitive framing and sensemaking capabilities direct the desire to shape a firm’s environmental response (Weick 1995; Zietsma and Vertinsky 1999). Finally, research finds that environmentally-sensitive managers possess strong pro-environmental values and an entrepreneurial flair (Egri and Hermann 2000; Dixon and Clifford 2007; Menon and Menon 1997). Such qualities provide the patience and dynamism needed to allow them to rally intraorganizational support for these initiatives (Egri and Herman 2000).

A related body of research revolves around the notion of an organizational environmental champion, defined as an individual that promotes the development and implementation of environmentally-sustainable practices (Anderson and Bateman 2000). At a more tactical level, such individuals spearhead an organization’s efforts to reduce waste, recycle materials, and reuse products (Grove et al. 1996; Hart et al. 2000). However, such individuals are also instrumental in directing higher-level or more strategic processes such as the development and marketing of green offerings (Hall and Vredenburg 2003; Nidumolu et al. 2009).

Although the literature typically associates environmental-championing behaviors with organizational leadership, as alluded to above, employees are shown to play a substantial role in organizational ‘greening’ (Bansal and Roth 2000; Langerak et al. 1998; Prendergrast and Thompson 1997). In addition to considering champions’ characteristics, the SMS literature also focuses on describing actions that a champion must undertake in order to bring an environmental initiative to fruition (Anderson and Bateman 2000; Henriques and Sadorsky 1998). In this regard, studies suggest that a champion's tenure, scanning behaviors, sense of urgency, local/global impact, coalition building abilities, and inspirational appeal are determinants of environmental-championing success (Anderson and Bateman 2000; Dixon and Clifford 2007). Interestingly, research also suggests that environmental champions in organizations use symbolic action, issue selling, and impression management to make their efforts seem amoral (Crane 2000). The need to amoralize environmental efforts, according to research, stems from the fact that organizational sustainability efforts fall short of achieving a ‘zero impact’ on the natural environment (Crane 2000). Therefore, by adopting an amoral attitude regarding an environmental initiative, the champion is potentially shielded from negative intraorganizational
repercussions from engaging in an initiative with an overly ambitious set of goals. Finally, research suggests that environmental champions’ efforts follow a process of issue identification, issue selling, and response. The most instrumental part of the process being the issue selling phase as it represents moving an issue from the champion’s individual agenda to that of the organization (Bansal 2003).

Supply Network Partners

Research demonstrates that both upstream and downstream supply network partners have been found to influence the adoption of sustainable marketing strategies (Bansal and Hunter 2003; Vachon and Klassen 2006). In a supply network context, efforts to reduce, recycle, and reuse materials instead of regarding them as waste are so identified (Carter and Carter 1998; Hart et al. 2000). Research suggests that the use of greener materials in the production function also might be categorized along with such efforts (Carter and Jennings 2004). In some cases, research indicates that channel partners encourage counterparts to adopt a more green approach to doing business so that they can comply with ISO 14000 requirements (Handfield et al. 2002; Polonsky and Rosenberger 2001; Walton et al. 1998). In other cases, research suggests that such efforts improve quality, reduce costs, and allows a firm to stay ahead of future regulations (Markley and Davis 2007; Shrivastava 1995). Finally, the SMS literature indicates that by enacting a sustainable approach to doing business, particularly within its supply network, firms can reap a competitive advantage (Shrivastava 1995). As a result, partners, and potential partners, build positive associations through efforts to ‘go green’ (See Table 2.2).

Conclusions and research extensions

The SMS literature features studies on how people affect and are affected by SMS implementation. A growing literature stream investigates both customers, including consumers, supply network partners, and employees, which includes managers, non-managers, and organizational environmental champions. While research in the area has had some success in terms of explaining a variety of behaviors, including some associated with the adoption of green goods and services, many questions remain unanswered. The following discussion highlights the identified research opportunities.
First, some consumer research might be argued to contain improperly specified models (Balderjahn 1988; Kinnear and Taylor 1973). In other words, additional explanatory variables should be included to more completely explain the variance in outcome measures. For example, to more fully specify the models found in the literature, factors such as social influence should be included (cf. Kollmuss and Agyeman 2002; Lee 2008). Second, whereas studies have found that several strategies have been employed by firms to improve their credibility, such as product labeling and third party alliances, other methods of influence have received limited attention. In particular, research that explored the kinds of effects provided by testimonials from friends about the environmental-soundness of a firm and offerings.

Third, research has shown that different ads containing different appeals have different effects on consumer behaviors. While such information may prove to be useful for sculpting ads, the differential effects of media sources on such behaviors is not considered. Given the widespread use of the internet and the rapidly increasing use of mobile technologies, such research is timely and the results could greatly benefit managers. Fourth, while the literature suggests that employees and managers can encourage a firm to adopt an SMS (Ramus and Steger 2000), research does not consider the relative importance of the actors. That is, the actor that has the greatest influence on firm behaviors is not identified. Finally, some research on supply network partners shows limited support for the notion that regulatory agents influence environmental purchasing activities (Bansal and Hunter 2003; Polonsky and Rosenberger 2001). Given that such a result is in contradiction with intuition and the results found in Handfield, Walton, Sroufe, and Melnyk (2002), additional empirical inquiries on this topic might be revealing.

Profits (and firm performance)

As alluded to above, research suggests that many environmentalists and lawmakers have set aside differences with firms, recognizing that industry can and should play a pivotal role in resolving the world’s environmental problems (Crane 1998; Elkington 1994; Mendleson and Polonsky 1995; Yaziji 2004). In fact, the literature suggests that formerly bitter rivals have taken on a supportive stance towards industry. Environmental watchdog groups oftentimes acknowledge that firms should profit from environmentally-sustainable activities, sanction firms’ pro-environmental behaviors, and form alliances with firms (Getzner and Grabner-Krauter 2004;
Hart and Christensen 2002; Polonsky et al. 2004). In short, although research suggests that firms were once the object of scorn, it demonstrates that many are now regarded as stakeholders in the environmental debate. Consequently, a growing literature base studies the viability of a firm conducting itself in a sustainable fashion. For a brief overview of the literature, see Table 2.3.

Research on the feasibility of a firm embarking on an SMS touches on several broad themes. First, studies attempt to define or operationalize a ‘green-oriented’ firm construct (Bansal 2005; Menon and Menon 1997; Stone and Wakefield 2000). Second, research considers the causal factors driving firms to engage in sustainable activities (Clemens and Douglas 2006; Henriques and Sadorsky 2008; Tenbrunsel et al. 2000). The literature uses multiple methods to assess the financial impact of adopting an SMS (Hillman and Keim 2001; Mathur and Mathur 2000). In addition, research considers the costs savings that could potentially accrue to a firm as a function of sustainable behaviors (Grove et al. 1996; Nidumolu et al. 2009). Finally, research explores some of the longer-term positive benefits enjoyed by firms choosing to adopt a ‘green’ orientation. In particular, the competitive advantage and subsequent sales increases that can accompany such activities are investigated (Nehrt 1996; Porter and van der Linde 1999). The following section treats each in turn.

The Green Oriented Firm

Research suggests that firms have developed a growing awareness of marketing strategies’ impact on the natural environment (Bansal 2005; Banerjee 2002; Menon and Menon 1997; Osterhus 1997). As a consequence, the literature suggests that many companies have made strides towards the adoption of an environmental or green-orientation (Baker and Sinkula 2005; Menguc and Ozanne 2006; Stone and Wakefield 2000). SMS literature defines the firm-level adoption of a green-orientation as when a firm operates in a manner that provides consumers with needed goods and services, while minimizing its impact on the natural environment (Starik and Rands 1995). For example, using a political-economic framework to develop a definition, Banerjee, Iyer, and Kashyap (2003) conceptualize a firm-level green-orientation as combining intraorganizational entrepreneurship and environmental-sensitivity. In the conceptualization, rather than viewing ecological issues as a threat, green-oriented firms leverage a combination of competencies (referred to as ‘enviroprenarialism’ by Varadarjan [1992]) to redefine potential threats as opportunities. In contrast to the definition found in
Buysee and Verbeke (2003), environmental-management strategies are defined in terms of the specific actions undertaken by the firm. By clustering firms’ responses on a series of environmentally relevant variables, Buysee and Verbeke (2003) suggests that there are three strategies that green firms can choose to adopt with respect to environmental-orientation: 1) a reactive strategy, 2) a pollution prevention approach, and 3) a strategy based on environmental-leadership. The reactive strategy, which Hart (1995) refers to as an ‘end of pipe’ approach, is the least environmentally-sensitive of the three as it describes an approach in which the firm deals with waste issues only as an afterthought.

The pollution prevention strategy, however, appears to be an improvement on the former, as firms subscribing to this approach tend to develop new products and processes with the environmental impact of such efforts in mind (cf. Lenox et al. 2000). Further, the authors describe an environmental-leadership strategy in which the adopting firm excels in all environmental criteria (e.g., conventional green competencies, employee skills, organizational competencies, management systems, management procedures, and the like). Similarly, Hart (1995) proposes a green-orientation, which is composed of three strategies; pollution prevention, product stewardship, and sustainable development. Founded on a natural-resource-based view of the firm, Hart (1995) suggests that firms garner a competitive advantage based on the firm’s relationship to the natural environment. Finally, Miles and Munilla (1993; pg. 47) defines a firm-level eco-orientation as one in which a firm produces eco-friendly products and operates using eco-friendly business practices in order to “engender an enhanced environment.”

In addition to conceptualizing a firm-level green-orientation, several studies have sought to operationalize the construct using the Churchill (1979) scale development paradigm. Such studies suggest that the majority of such measures could be classified as multidimensional and feature reflective measurement scales (e.g., scales representing hypothetical, latent constructs which contain at least two subordinate constructs that load on to a superordinate construct at a higher level of abstraction) (Jarvis et al. 2003). Consider, for instance, that Baker and Sinkula (2005) operationalize a measure of what is called ‘enviroprenuerial marketing’ as a multidimensional construct composed of opportunity, commitment, and righteousness. Banerjee (2002) suggests that environmental-orientation is a multidimensional scale containing both an internal and external orientation. The internal orientation factor corresponds to intrinsic reasons for the firm’s adoption of such a strategy (Banerjee 2002), while the external orientation factor
deals with how doing so affects external stakeholders. Similarly, Menguc and Ozanne (2006) identify a scale, natural environmental orientation (NEO), that is composed of entrepreneurship, corporate social responsibility (CSR), and commitment to the environment. Rueda-Manzanares, Aragón-Correa, and Sharma (2008) operationalize a related construct called environmental strategy, a seven-dimension, second-order construct. Finally, considering how the resource based view and institutional theory influence firm-level environmental behaviors, Bansal (2005) creates a scale for sustainable development. Her study tested the effects of international experience, capital management capabilities, organizational slack, fines, penalties, mimicry, and media on a newly developed multidimensional scale that contains three distinct components (environmental-integrity, economic prosperity, and social equity).

Several of the firm-level green-orientation scales found in the SMS literature test for nomological validity (cf. Baker and Sinkula 2005; Menguc and Ozanne 2006). The validity testing regime assesses a newly formed construct’s ability to appropriately interact with other constructs as predicted by theory. Typically, the constructs that are chosen for a nomological validity assessment offer the researcher a substantive interpretation that is valuable for managers and future researchers. For example, Baker and Sinkula’s (2005) enviropreneurial marketing construct is cast relative to new product success and changes in market share. The results suggest that not only does the newly developed scale exhibit nomological validity, but that firms which choose to adopt an enviropreneurial-orientation are likely to reap new product success and to enjoy positive changes in market share. Menguc and Ozanne (2006) report similar findings, as their NEO scale positively impacts a firm’s profits and market share. In sum, the SMS literature features several firm-level operationalizations of the green-orientation construct. In most cases, when this construct is cast relative to firm performance measures, positive outcomes result for a firm. The result is a particularly noteworthy finding, as mentioned above and as elaborated on below, since firms generally do not embark on a strategy that is not financially rewarding (Walley and Whitehead 1994).

_Intrinsic and extrinsic motivations for the adoption of an SMS_

Research demonstrates that most firms adopt an SMS for two primary reasons, which are ultimately related to profitability (Banerjee 2002). First, it suggests that firms may be forced to do so for extrinsic reasons, such as the growing demand for green goods and services or the
encumbrance of newly instituted environmental protection legislation (Osterhus 1997; Porter and Van der Linde 1999). Research endeavors to evaluate the financial impact of ‘going green’ based on such reasons. For example, studies examine how environmental protection laws may burden the firm with expenses that are detrimental to profits (Russo and Fouts 1997; Walley and Whitehead 1994). Research also finds that firms may be incentivized to adopt an SMS for intrinsic reasons such as for the prospect of sales and profit increases or, as elaborated on above, from an organizational leader’s personal desire to protect the environment (Flannery and May 2000; King and Lenox 2002; Russo and Fouts 1997). Studies considers the impact of a firm’s public announcements of ‘going green’ on stock valuations (Klassen and McLaughlin 1996). The following discussion addresses the organizational motivations to embark on an SMS.

As alluded to above, research suggests that firms are pressured by a variety of extrinsic motivators to adopt an SMS (Clemens and Douglas 2006; Tenbrunsel et al. 2000). Such forces include legislation that could result in both criminal and civil penalties for managers and owners of firms that are found to be non-compliant with exacting environmental standards (Clemens and Douglas 2006). Research also documents that firms operating in multiple foreign countries are challenged further, as such organizations are faced with compliance to each individual host country’s environmental regulations (Rugman and Verbeke 1998). Clearly, such factors complicate operations and result in escalating costs. Moreover, research suggests that firms investing in pollution prevention and recovery efforts suffer from staggering opportunity costs (Russo and Fouts 1997).

Environmental laws act as an implicit tax whereby legislation forces a firm to divert funding from projects that could have rewarded it with higher profit margins and thus greater shareholder value. Research also points to proactive strategies undertaken by firms to navigate an increasingly onerous legal environment (Clemens and Douglas 2006; Henriques and Sadorsky 2008). Firms demonstrate environmental commitment to legislative bodies by voluntarily adopting environmental initiatives with the purpose of circumventing additional, and perhaps vastly more oppressive environmental regulations (Dummett 2006).

The SMS literature, additionally, suggests that pressure from customers represents another external motivator (cf. Carter and Carter 1998; Polonsky and Rosenberger 2001). With respect to business-to-business transactions, such pressure may stem from channel partners seeking to maintain their ISO 14000 certifications, may result from interactions with uncertified
channel partners who are simply seeking to portray themselves as ‘green’ (Carter and Carter 1998; Polonsky and Rosenberger 2001). Research indicates that certification places limitations on the types of suppliers that a firm can use (Miles et al. 1997). In essence, such constraints force firms to adopt a sustainable approach to doing business and thus place pressure on would-be suppliers’ profit margins (Miles et al. 1997). Furthermore, consumer demand for green goods and services has recently ballooned, resulting in a strong derived demand whereby consumers ‘pull’ green goods and services through the supply channel (Bishop et al. 1984; Moon 2007; Schlegelmilch et al. 1996). Such efforts provide firms with a strong impetus to adopt a ‘greener’ approach to doing business, while possibly impacting profits in the process.

In terms of motivators to the adoption of an SMS, research investigates intrinsic motivators, such as potential sales and profit increases (Harris 2007; Schaltegger and Synnestvedt 2002; Varadarajan and Menon 1998). In particular, studies identify individual and organizational factors that influence such actions (cf. Shrivastava 1995). Since, the latter grouping is discussed above in the section on ‘people,’ the following discussion is limited to an exploration of research on financial rewards that accrue to firms as a result of adopting sustainable behaviors.

Whether or not the implementation of an SMS results in increased profitability is a highly contested topic (Russo and Fouts 1997; Schaltegger and Synnestvedt 2002). As stated above, the literature is replete with studies providing support for both arguments. On one hand, research suggests that companies have lost money as a result of SMS enactment (Walley and Whitehead 1994). In particular, firms are impacted by product failures, stock devaluations, and financially taxing environmental regulations (Hall and Vredenburg 2005; Hillman and Keim 2001; Mathur and Mathur 2000; Peattie and Crane 2005; Walley and Whitehead 1994). On the other hand, research suggests that SMS implementation generates savings through waste reduction, reusing what was once considered waste, and the sale of what was once considered scrap (Grove et al. 1996; Nidumolu et al. 2009). Additionally, research supports the argument that the initiation of an SMS reduces costs, and hence increases profits, through the closing of polluting and obsolete production facilities, increasing efficiencies, reducing the risks of boycotts (Kassinis and Vafeas 2009; King and Lenox 2002; Porter and van der Linde 1999). Although research suggests that the heterogeneous findings reported may be a function of poorly designed and executed research
methods, the fact still remains that the findings are inconclusive and thus call for additional empirical explorations in order to provide closure (Russo and Fouts 1997) (See Table 2.3).

Conclusions and research extensions

Research on the profitability of SMS investigates several areas related to firm performance. First, studies attempt to define and operationalize green-oriented firms (cf. Baker and Sinkula 2005). While research is very effective at both of these activities, the majority of these efforts focus on manager’s perceptions of the firm and firm’s behaviors (cf. Baker and Sinkula 2005; Menguc and Ozanne 2006). A question thereby identified is would a scale that assesses perceptions of a firm’s green orientation from a consumer’s perspective be more useful given that consumers are ultimately the ones making purchasing decisions (Bishop et al. 1984)? If such is the case, efforts at a wholesale reconceptualization are appropriate, as the dimensionality of many of the constructs identified in the SMS literature is of limited relevance to consumers. Research also examines the factors that influence the adoption of such behaviors, while examining the financial impact and potential costs savings associated with these factors (Baker and Sinkula 2005; Stone and Wakefield 2000). Although the SMS literature base attempts to unravel the profitability question, mixed findings call for additional research. Perhaps, there are moderating factors which have yet to be discovered which could explain the conflicting findings in the literature. Finally, research on the topic explores the competitive advantages that can accrue to the firm as a result (Varadarajan and Menon 1998). While first mover advantages and other competitive advantages are proven to benefit firms that adopt an SMS (Baker and Sinkula 2005; Porter and van der Linde 1999), given the increase in societal awareness of environmental problems and the widespread adoption of SMSs by firms, the ability of the strategy to garner such benefits remains questionable. In other words, additional research needs to be conducted to examine the linkage between the two constructs in light of changing public awareness.

Final Conclusions

The purpose of the large-scale, integrative literature review is to provide sustainability researchers with a list of research opportunities that builds on what is already known about the
topic. The review demonstrates that the SMS literature base is shallow and contradictory. While the literature provides answers to some questions regarding the various stakeholders to the environmental debate (cf. King and Lenox 2002; Porter and van der Linde 1999), answers to many new and interesting questions are needed. The following discussion provides an overview of the major questions that emerged from the analysis of the SMS literature base. The questions are identified in figure 2.1, to provide an overview of what is known and what needs to be learned about SMS (See Figure 2.1).

With regards to how firms interact with the planet, future research is needed to focus on how firms deal with the challenges faced in generating consumer demand. Also, research should evaluate how firms, governments, NGOs, and regulating bodies can influence pro-environmental behaviors. Research is needed to examine how social factors influence firms to improve their environmental performance. Further, future research should explore the extent to which network effects influence adoption behaviors, especially in cases in which network effects have been minimized. Finally, studies are needed to investigate the impact of different firm incentives on environmental protection policies. In this regard, research could explore the question of when it might be necessary to adopt a strict environmental protection regime as a defensive strategy.

Future research dealing with the second stakeholder, people, should also focus on the impact of variables such as social factors that influence consumers’ adoption of green goods and services. Also, research is needed to study the extent to which social influences such as personal endorsements affect the purchase of green goods and services. Furthermore, future research is needed to examine the differential effects of different sources of information (e.g., mobile media, social media). Also, research should explore the differential impact of employees and managers as they attempt to influence firms to ‘go green.’ Finally, additional research should be undertaken to provide resolution to conflicting findings centering on regulatory agencies’ influence on supply network partners’ adoption of an SMS.

With regards to profits, inquiries are needed to explore how to measure a firm’s green-orientation from a consumer’s perspective. Although knowing managers’ opinions of what it means for a firm to be green is useful, managers’ opinions may differ from those held by consumers. Additionally, future work should attempt to resolve the mixed results on the effects of SMS enactment on firm profitability. Finally, research should reexamine the other advantages
that can accrue to the firm as a result of SMS implementation, as the recent widespread adoption of these strategies may have changed their effects.
CHAPTER 3

ESSAY 1

Barriers to and Enablers of the Adoption of “Green” Offerings

Abstract

Despite a growing body of evidence suggesting that green goods and services are in demand, consumer behavior studies show mixed results, as sluggish sales and product failures abound in the marketplace. Furthermore, research that addresses the organizational adoption of green offerings is limited. Given the substantial financial risk associated with introducing new green offerings and the conflicting findings in the literature, a discovery oriented, grounded theory approach is justified.

The research presented investigates adoption behaviors by drawing on depth interviews and the existing literature. Two comprehensive conceptual models are clarified that capture the majority of factors that are ound to influence consumer and industrial market adoption. Organizational respondents describe supplier and intraorganizational factors as barriers to adoption, while suggesting that adoption is associated with governmental interventions, related to the organization’s core values, and perceived of as good for business. In addition, organizational respondents suggest that a firm’s actions, communications, and offerings can be leveraged to overcome barriers. Consumers, on the other hand, suggest that consumers’ and offerings’ characteristics tend to block adoption. In contrast, a firm’s and consumer’s particular characteristics enable adoption. Furthermore, consumers recommend that green marketers leverage marketing mix elements to overcome adoption barriers.

Introduction

Corporate sensitivity to the environment is on the rise (Baker and Sinkula 2005; de Ruyter et al. 2009; Drumwright 1994; Grinstein and Nisan 2009; Menon and Menon 1997). Research suggests that firms adopting a sustainable or ‘green’ marketing strategy, one in which firms either market or purchase green goods and services while operating in an environmentally-friendly way, are rewarded (Bloom et al. 2006; Lash and Wellington 2007; Russo and Fouts 1997). Studies also indicate that firms deemed to be ‘environmentally-ambivalent’ run the risk
of negative consequences from multiple stakeholders (Baker and Sinkula 2005; Henriques and Sadorsky 1999; Zinkhan and Carlson 1995). In particular, the threat of share price devaluation, revoked strategic supplier status, and market share erosion looms large (Getzner and Grabner-Kräuter 2004; Lash and Wellington 2007; Polonsky and Rosenberger 2001). In short, evidence indicates that the implementation of green marketing strategies can represent a substantial opportunity for a firm, and that not doing so may result in damaging effects (Menon et al. 1999; Varadarajan and Menon 1998).

Whereas many studies identify positive effects of adopting a green marketing strategy, some suggest that it is ill-advised and thus suggest caution (King and Lenox 2002; Mathur and Mathur 2000; Porter and van der Linde 1999). For instance, research indicates that the costs associated with producing or purchasing green offerings may outweigh their associated benefits (Cooper 2000; Meredith Ginsberg and Bloom 2004). Firms producing such offerings for consumer markets are negatively impacted by sluggish sales volumes and subsequent product withdrawals (Kalafatis et al. 1999; Peattie and Crane 2005). Such firms are guided by claims of strong demand as consumers indicate a willingness to purchase, and even pay more for, environmentally-sensitive offerings (Bhate and Lawler 1997; Rowlands, Parker, and Scott 2002; Trudel and Cotte 2009). Research, however, suggests that consumer sentiments and actions are conflicted, resulting in the limited marketplace acceptance of green offerings (Bolton 1998; Chan 1999; Ottman 1998).

When considering organizational incentives to adopt green goods and services, the literature on business-to-business (B2B) markets suggests that firms oftentimes perceive of green marketing efforts as financially onerous (Nidumola et al. 2009; Walley and Whitehead 1994). Research also posits that many firms reluctantly adopt environmentally-sensitive business practices, stating that they have been coerced by burdensome legislation and stakeholder interests (Clemens and Douglas 2006; Gonzalez-Benito and Gonzalez-Benito 2004; Handfield et al. 2002). Furthermore, studies suggest that the development of a firm-level green orientation is facilitated by the emergence of an organizational champion, a leader that tries to influence stakeholders while moving the concept from a personal agenda item to that of the firm (Anderson and Bateman 2000; Bansal 2003; de Ruyter et al. 2009; Drumwright 1994; Varadarajan 1992). Since consumer demand drives most industrial transactions and since some firms view adherence to exacting environmental standards as more of a burden than a benefit,
logic suggests that firms carefully consider the implications of either producing green goods and services or purchasing such assets to be used as inputs in production efforts (Chen 2001; Mathur and Mathur 2000).

The literature on green product adoption in consumer markets appears fragmented and limited. Bringing new green products to market can be costly and represents a risk to the firm (Cooper 2000; Peattie and Crane 2005). Such concerns represent problems for academics and practitioners. Thus, research that sheds light on adoption factors is useful for both research and practice.

The objective of the research presented is to contribute to the growing discussion on green marketing by providing insights into the factors that inhibit and encourage the adoption of green offerings. More specifically, the research presented seeks to identify adoption factors by leveraging a discovery-oriented approach whereby the findings from fieldwork observations are coupled with existing theory found in the literature (Strauss and Corbin 1998; Kohli and Jaworski 1990; Morgan et al. 2005). In-depth interviews with mid- and senior-level employees and consumers are conducted to allow a more lucid understanding of the barriers and enablers of green marketing strategies (cf. Tuli et al. 2007). The results are then iteratively synthesized with the literature to develop two comprehensive conceptual models that use empirically tested and untested constructs to enrich the understanding of how to effectively market sustainable offerings (Morgan et al. 2005).

In the following sections, prior research on the factors that influence the adoption of green goods and services in the marketplace is discussed. In addition, an overview of the research methods employed in the study are described. Furthermore, two conceptual models are introduced. One model identifies consumer adoption barriers and enablers; and a second model that identifies organizational barriers and enablers. The models depict a series of constructs to be operationalized in future research, along with narrative descriptions of the views on the adoption phenomenon. The research presented concludes with a discussion of strategies that assists green goods and service firms in their efforts to overcome the barriers to adoption identified in this study.

Conceptual Background
There is a relative dearth of research as to the barriers to and enablers of the adoption of green offerings in industrial markets. However, the literature does contain investigations as to the role played by the individual and the organization in the adoption process (Carter and Carter 1998; Drumwright 1994). With regards to the individual, research studies psychographic and demographic factors that drive purchasing behaviors (Bansal and Roth 2000; Balderjahn 1988; Downs and Freiden 1983; Kinnear and Taylor 1973; Kinnear et al. 1974). In addition, the effects of perceptions of relative cost, lack of convenience, and disincentives as hindrances to adoption have been investigated (Geller 1981; Orsato 2006; Roberts 1996; Walley and Whitehead 1994). From the perspective of the organization, studies examine the effects of factors such as alliances with non-governmental organizations (NGOs) and watchdog groups, the voluntary acceptance of environmental standards, and the implementation of green integrated marketing communications (IMC) programs on adoption (Clemens and Douglas 2006; Crane 1998; Polonsky and Rosenberger 2001; Yaziji 2004). On the other hand, studies seek to understand the effects of inauthentic portrayals (e.g., instances of green-washing) and an inability to activate consumer trust as factors that stifle the adoption process (McDonagh 1998; Osterhus 1997; Polonsky et al. 1997). The following discussion highlights findings from the literature.

Research explores individual factors that promote the adoption of green offerings (de Ruyter et al. 2009;Henriques and Sadorsky 1999). Studies indicate that demographic variables, such as age, race, and income-level, play a role in the consumer adoption process (Kinnear et al. 1974; Murphy et al. 1978). Later research focuses on psychographics. In addition, research suggests that personality and personal values play a role in influencing purchasing decisions, producing models with markedly greater amounts of variance explained than studies focusing exclusively on demographics (Bagozzi and Dabholkar 1994; Balderjahn 1988; Bech-Larson 1996). More specifically, research tests the effects of several new constructs, such as ecological concern, perceived consumer effectiveness, and attitudes toward pollution and ecologically conscious living, on purchasing behaviors (Balderjahn 1988;Ellen et al. 1991; Kinnear and Taylor 1973). In addition, research suggests that an individual’s ethics plays a role in the adoption of environmentally-sound practices (Drumwright 1994; Flannery and May 2000; Shaw and Shiu 2003; Trudel and Cotte 2009).

Individual factors, however, also are found to hinder the adoption of green offerings. Research suggests that both consumers and managers consider costs, oftentimes at the expense of
environmental-sensitivity, when making purchasing decisions (Carter and Dresner 2001; D’Souza et al. 2007; Meredith Ginsberg and Bloom 2004). In terms of consumer adoption related to product costs, research reveals that consumers claim to be willing to pay more for environmentally-friendly offerings (Meredith Ginsberg and Bloom 2004). Yet green product failures abound in the marketplace (Peattie and Crane 2005). In this example, the cost differences between sustainable and non-sustainable counterparts result in weak demand across several product categories. As a consequence, companies such as Unilever have discontinued many green products (Peattie and Crane 2005). Research further suggests that some managers regard projects that improve environmental performance to be successful only if costs are reduced in the process (Carter and Dresner 2001). Accordingly, some organizations may forgo using more expensive environmentally-friendly inputs in their operations (Kleindorfer et al. 2005).

The literature also indicates that convenience plays a role. In this regard, consumers claim to be willing to purchase green offerings if they are readily available and easy to use (Bhate and Lawler 1997; Henion 1981; Mccarty and Shrum 2001). Disincentives influence the adoption of environmentally-friendly practices. On the consumer side, research suggests that electricity consumption is altered by penalizing customers for using services during peak-demand hours. The key to changing behaviors is linked to using variable pricing structures in conjunction with information (Kauslis et al. 1981; McDougall et al. 1981). With regards to managers, the literature suggests that in cases in which compensation is tied to short-term profitability, willingness to adopt green offerings is affected (Carter and Dresner 2001). However, the opposite holds true as research suggests that many firms are tying managerial compensation to environmental performance, resulting in changes in business practices and consequently performance (Berrone and Gomez-Mejia 2009; Russo and Harrison 2005; Stanwick and Stanwick 2001).

Research also suggests that organizational factors promote the adoption of green offerings (Bansal 2005; Drumwright 1994; Starik and Rands 1995). For example, research investigates organizations that develope strategic alliances with third-party environmental-watchdog groups. The studies suggest that by forging alliances firms’ environmental claims are perceived of with a higher level of credibility, thus enhancing prospects for sales and relationship development (Milne et al. 1996; Polonsky 2001; Stafford and Hartman 1996; Yaziji 2004).
Shell’s alliance with the World Wildlife Fund illustrates the beneficial effects that can result. With the help of the NGO, Shell receives advice on product development, positioning the company in a positive light with consumers and purchasing agents while allowing it to forestall potential concerns from adversarial environmentalists (cf. Polonsky and Rosenberger 2001; Walton et al. 1998; Yaziji 2004).

In addition, studies investigate how organizational resources encourage adoption (Hart 1995). For example, Bansal (2005) finds that managerial capabilities and organizational slack influenced a firm’s tendencies to engage in sustainable development. Furthermore, while the literature suggests that external forces such as government intervention are instrumental in spurring adoption (Shrivastava 1995), the literature also suggests that the voluntary acceptance of sustainability standards works in a manner similar to that described above. That is, research builds credibility in the marketplace. Finally, research suggests that the alignment between an organization’s sustainability efforts and company generated announcements encourages the adoption of its product offerings, as doing so activates trust (Banerjee et al. 2003; Osterhus 1997; Polonsky and Rosenberger 2001).

Instances of greenwashing, and a general inability to win consumer trust, represent two of the main organizational barriers to the adoption of sustainable offerings (Banerjee et al. 2003; Peattie and Crane 2005). Research examines how organizational miscues destroy their credibility. In particular, the literature suggests that firms must guard against being perceived of as disingenuously portraying their operating practices as environmentally-friendly (Banerjee, Iyer, and Kashyap 2003). Such situation has been studied in advertising research where consumers are found to punish firms for fraudulently portraying themselves as “green” (Carlson et al. 1993; Davis 1992; Kangun et al. 1991). Furthermore, research studying the effects of an organization’s pro-social influence strategies indicates that consumers must trust a firm in order for its efforts to affect behavioral changes (Osterhus 1997). In short, as alluded to above, firms must be cautious to be completely forthright when announcing their environmental efforts.

This overview of the literature on adoption barriers and enablers suggests that individual differences and organizational factors have been found to be influential in both the consumer and organizational adoption processes. While not an exhaustive review, the effort provides a point of departure for additional exploratory research (cf. Tuli et al. 2007). A qualitative study follows an overview of the research methods involved.
Method

As this study aims to get at a deeper level of understanding of the factors that impede and promote the adoption of green goods and services, a grounded theory approach is used (Strauss and Corbin 1998). The method is shown to be worthwhile when developing conceptual models and when the literature is fragmented (Drumwright 1994; Fournier and Mick 1999; Tuli et al. 2007). Given that the literature features mixed findings on consumer behaviors relative to the adoption of green goods and services (Bhate and Lawler 1997; Henion 1981; Mccarty and Shrum 2001), and, since it suffers from a shortage of research on industrial market adoption (Drumwright 1994), a grounded theory approach is not only useful, but it is also justified (Strauss and Corbin 1998).

In order to gain insights into the adoption process, interviews with both mid- and senior-level organizational employees and consumers were conducted (See Tables 3.1 and 3.2). The findings from these interviews were then iteratively synthesized with themes that consistently appeared in the literature, allowing for a more complete understanding of the adoption phenomenon (Morgan et al. 2005). Thus, through the merging of fieldwork and well-supported research, conceptual models for both consumer and industrial markets were created, yielding both established and untested constructs that are relevant to the marketing of green offerings, as well as allowing for a comparison of the identified factors (Strauss and Corbin 1998). In short, by conducting a grounded theory analysis of interviews in conjunction with established findings, new constructs were identified, encouraging theory development and confirmatory research extensions (cf. Morgan et al. 2005; Strauss and Corbin 1998).

Sample and data collection

Data were obtained from 40 in-depth interviews with mid- and senior-level employees and consumers (See Tables 3.1 and 3.2). Since the intentions of the research were to develop new theories about adoption factors, a theoretical sampling approach using constant comparison was undertaken (Morgan et al. 2005; Strauss and Corbin 1998). In other words, since the research method departs dramatically from the traditional hypothetico-deductive approach, random sampling techniques were not employed (Bendapudi and Leone 2002). Instead, the
research approach involved sampling ideas or concepts that emerge from a qualitative analysis of interviews (Flint et al. 2002; Kohli and Jaworski 1990; Tuli et al. 2007).

To generate a large sample of concepts, knowledgeable informants from a wide array of organizations were sought (Malshe and Sohi 2009). In particular, informants were contacted from multiple industries using multiple sources, including the Internet, web-based databases, personal and professional contacts, and snowball sampling\(^2\) (cf. Malshe and Sohi 2009; Tuli et al. 2007). A total of 63 potential organizational respondents were initially contacted with 22 agreeing to participate in the study. Informants had been with their companies for an average of ten years, and had titles ranging from President to Manager. Organizational informants were from companies ranging in sales volumes from less than $10 million to greater than $25 billion in annual sales and with from less than 50 to over 250,000 employees (See Table 3.1). Informants were interviewed by the dissertation’s author for approximately twenty to 60 minutes using a structured interview protocol (See Appendix I) (See Table 3.1). The data were captured in handwritten field notes, with the main ideas from the interviews captured in a typed format. Finally, a total of twenty interviews proved to be sufficient, as a theoretical saturation point was reached with this number (Strauss and Corbin 1998).

The same logic applies to the investigation of consumers, as respondents were from wide-ranging socio-demographic backgrounds and were drawn from personal contacts (including family, friends, and business acquaintances). A total of 32 potential respondents were initially contacted, with twenty agreeing to participate in the study. Consumer respondents ranged in age from 23 to 77 years old and had been purchasing green goods and services for as few as 6 months to 35 years (See Table 3.2). Consumer respondents were also interviewed by the dissertation’s author for approximately twenty to 60 minutes using a similar structured interview protocol (See Appendix I) (See Table 3.2). Finally, the interviewing process was conducted over a four month period, with supplementary interviews occurring until themes emerging in the data indicated that a theoretical saturation point had been reached (Strauss and Corbin 1998).

Coding and analysis procedure

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\(^2\) The author would like to thank the KPMG Foundation and the PhD Project for facilitating several organizational interviews that might have otherwise been impossible to secure.
A sophisticated data-analytic method was undertaken using Atlas TI 5.0. In particular, the interviews were coded using a three-step process. The first step involved open coding, which was accomplished by the dissertation’s author. In this step, the text generated from the interviews was analyzed to identify important concepts. Oftentimes, verbatim responses were used to label these concepts. Each respondent’s comments were then analyzed for the occurrence of additional concepts. This process resulted in the elimination of duplicate concepts and the addition of newly identified ones to a growing list. In short, new concepts coalesced from the data in an iterative process of evaluating and classifying the transcribed interview notes (cf. Strauss and Corbin 1998).

The process was then followed with axial coding. Specifically, the concepts identified during the open coding process were then categorized under broader themes which served as research constructs (Strauss and Corbin 1998). The constructs that emerged were then used to develop the frameworks for the conceptual models (See Figures 3.1 and 3.2) (Also See Tables 3.3 and 3.4). Finally, the entire data coding process was assessed for reliability (Perreault and Leigh 1989). With a reliability coefficient of .85, the process was found to be highly reliable. Specifically, the reliability of the classification system is assessed using an inter-rater reliability measure of a random sample from the data (cf. Perreault and Leigh 1989). This measure represents a coefficient of agreement for classifying nominal data. It was calculated by taking the average of agreement among four judges and the author. The judges included two professors (Drs. Jeff Smith and Gary Knight) and two doctoral students (Jeremy Wolter and Yvette Holmes) who have expertise in marketing strategy, operations, and consumer behavior. The results show an agreement of .85, exceeding the recommended .70 threshold (cf. Perreault and Leigh 1989).

In a final step, referred to as selective coding, narrative descriptions of the constructs, and their interrelationships, found in the axial coding process were developed. Representing the culmination of the analytical process, the newly developed narratives contained constructs that were used to populate the accompanying conceptual models. Taken collectively, a general theory of adoption is proposed based on an interpretative analysis of the accompanying conceptual models (Strauss and Corbin 1998). While referring to the accompanying conceptual models, the following section explains the theory of the barriers to and enablers of the adoption of green goods and services for both consumers and organizations (See Figures 3.1 and 3.2).
The Barriers and Enablers

Using a grounded theory approach, the findings from twenty interviews of mid- and senior level employees and twenty consumers were collapsed into two comprehensive conceptual models (See Tables 3.1 and 3.2). While this analysis focuses on insightful and novel ideas, oftentimes it acknowledges and integrates findings from the marketing and management literatures that may be related (cf. Morgan et al. 2005). The analytic effort is then explicated in a series of descriptive narratives (cf. Strauss and Corbin 1998). In essence, each narrative describes the constructs that emerged in the analysis.

A succession of narratives begins with a discussion of the findings from interviews with organizational employees on the barriers and enablers to adoption in industrial markets. A section follows that details strategies recommended by organizational employees on how green marketers can overcome the barriers. A narrative containing the distilled contents of consumer interviews on barriers and enablers in consumer markets follows. A section follows that details strategies recommended by consumer interviewees on how green marketers can overcome such barriers (See Tables 3.1 and 3.2). Throughout the discussion, the reader is to refer to Figures 3.1 and 3.2. The barriers are listed in the ring surrounding the centers of each figure, the enablers are listed in the arrows on the left hand side pointing towards the center of each of the figures, and the strategies to overcome the barriers are listed in the arrow on the right hand side of each figure.

Organizational Barriers to Adoption

Twenty mid- and senior level organizational employees were asked by the dissertation’s author to describe some of the factors believed to be inhibiting the green goods and services adoption process (See Table 3.1). Two broad themes emerged (using the aforementioned coding process) and are found in the outer ring of figure 3.1. The themes included barriers related to their green suppliers and ones related to respondents’ own organizations. With regards to the green suppliers’ barriers, the traditional four Ps of marketing (how these offerings are priced, promoted, placed [their accessibility], and produced) played a role (McCarthy 1964). Barriers related to a respondent’s own organizations dealt with intrinsic firm characteristics, cultural factors, and cost considerations. The following discussion describes such findings in detail, beginning with barriers related to green marketers.
Supplier Related Barriers

Price Barriers

Consistent with findings in the literature, many of the respondents (N = 11) described pricing barriers to the adoption of green goods and services (Meredith Ginsberg and Bloom 2004; Polonsky and Rosenberger 2001). Pricing barriers refers to themes related to the quantity of money paid for a green good or service (see Table 3.3). Put simply, respondents suggested that green offerings were “priced too high,” making them less attractive purchases for their organizations. In fact, respondents suggested that pricing barriers could result in the abandonment of an organization’s sustainability efforts. In other words, managers were being forced to disregard environmental agendas because customers were unwilling to pay a price premium for the benefit of receiving an environmentally-sensitive offering (Reinhardt 1998; Trudel and Cotte 2009). Consider the comments made by a brand manager of a large US based sports equipment and clothing manufacturing company with a large share of both domestic and international markets who described consumer demand for his company’s sustainable offerings as price dependent (Peattie and Crane 2005). “Eventually price will be the key factor for consumers [as they make their purchasing decisions]. We are hoping that prices will decrease, especially in light of the weak economy. Green products need to be more affordable for people, as we don't want to make consumers choose non-green options as a result of pricing” (See the outer ring of Figure 3.1).

On the other hand, two respondents recognized that pricing represents a barrier and yet acknowledged that a price differential may be justified, given the discernable quality differences between environmentally-friendly offerings and less green counterparts (Reinhardt 1998). Furthermore, a few respondents (N = 2) described suppliers as being caught in a pricing “catch-22.” Specifically, interviewees (N = 2) suggested that suppliers need to increase sales in order to be able to reap scale economies, thus allowing for future price reductions. The challenge suggested was that consumers would have to ‘pull’ these goods and services through the value chain to activate such an effect. Given that pricing issues were mentioned as having a dampening effect on consumer demand, the results suggested that increasing demand may prove difficult to accomplish (See the outer ring of Figure 3.1).
Place Barriers

Organizational interviewees ($N = 3$) mentioned place barriers to the adoption of green offerings. Such factors dealt with the accessibility of products and the ease of implementation. With regards to accessibility, respondents stated that organizations increased the use of green goods in their production processes, if such products were more convenient (Bhate and Lawler 1997). Some respondents ($N = 2$) mentioned that green offerings were hard to find, suggesting that access through the internet and wholesalers would be helpful. With regards to ease of implementation, some ($N = 2$) called for green suppliers to do a better job of providing after sales support. Having trained representatives available to assist suppliers with difficulties after the order was offered as a possible solution to such problems by one respondent. More specifically, field personnel whose main function was to oversee on-site product rollouts could be used to facilitate adoption efforts. The key finding is that suppliers must make offerings easier to use in order to spur adoption and increase sales (See the outer ring of Figure 3.1).

Promotion Barriers

Promotional barriers center on how firms alert customers and potential customers about green product offerings. Regarding the barrier, interviewees ($N = 6$) complained that firms had to seek out green suppliers, which oftentimes prevented the organization from purchasing environmentally-friendly products. In other cases, however, respondents ($N = 2$) suggested that organizational leaders were environmentally ambivalent and resistant to change. The results suggested that persistence would be needed to sway organizational opinions of green product offerings. Consider the following statement made by a senior product manager at DeliveryCo: "The mindset of some of our decision makers prevents us from going green. They just don't see the benefit. They need to be convinced" (See the outer ring of Figure 3.1).

Product Barriers

The most frequently mentioned barriers to the adoption of green goods and services dealt with product related issues. Interviewees ($N = 12$) recommended that green marketers focus on innovation, product line diversification, production capacity, and reliability. With regards to
innovation, the owner of PestCo, a regionally-based pest control company specializing in sustainable treatment methods with a dominant market share in a highly populated southeastern state, suggested that green firms should “keep innovating and creat[ing] products that are green friendly that [his] company is capable of using” (Nidumolu et al. 2009). By maintaining a wider selection of products and innovative services, green marketers can more readily entice organizational buyers to choose sustainable options. In agreement with findings in the literature, interviewees also alluded to issues related to green supplier’s production and service capacity (c.f Chen 2001; Marshall and Brown 2003). Specifically, respondents warned suppliers against stock-outs and reliability issues. Given that many green suppliers are smaller, and thus, less well-funded, fulfilling such expectations may represent a significant challenge (Stanwick and Stanwick 1998) (See the outer ring of Figure 3.1).

Some respondents (N = 4) mentioned product functionality as another potential barrier. In this regard, green offerings were, unfortunately, found to compromise on quality, functionality, or other necessary product attributes, which in some cases represented an insurmountable obstacle (cf. Meredith Ginsberg and Bloom 2004). Additionally, respondents (N = 2) stated that when adoption efforts presented a risk to the brand, firms were reticent to adopt. For instance, a brand manager for SportwareCo described the negative repercussions associated with the pairing of brands and the use of deplorable workplace conditions in foreign countries. SportwareCo, the respondent claimed, had taken on a more risk averse approach in the use of recycled components in the company’s products, as a consequence. Finally, interviewees (N = 2) suggested that marketers should adopt a market orientation. That is, the respondents (N = 2) suggested that suppliers should be sensitive to the demands of the marketplace and produce green offerings that have mass appeal, as well as ones that represent effective sustainable inputs to firms’ production efforts (See the outer ring of Figure 3.1).

In sum, organizational interviewees (N = 10) suggested that suppliers did not adequately market their green offerings. The respondents pointed to issues revolving around product pricing (N = 3), accessibility (N = 6), promotions (N = 12), and development (N = 4) as barriers to the adoption of green goods and services.

Intraorganizationally Related Barriers
When asked to describe barriers to adoption, respondents ($N=8$) also suggested that several internal factors were influential. In particular, factors related to the organization’s culture ($N=3$), its inherent organizational characteristics ($N=5$), and cost considerations ($N=7$) were identified. The following discussion details each of these factors (See the outer ring of Figure 3.1).

Respondents ($N=5$) specifically described several barriers that center on some of a firm’s inherent characteristics. Two respondents suggested that the fact that their organizations were unionized served as a barrier to adoption of sustainable business practices. Specifically, for example, the executive operations manager for InsuranceCo stated that union employees had to be convinced that adopting paperless, and therefore more sustainable, paychecks would not place employees in an adversarial position vis-à-vis the firm. Second, two respondents described the “nature of their business” as representing a hurdle to the adoption process. For instance, a market research manager for a large US based producer of consumer goods suggested that although her company had made progress towards minimizing packaging, reducing the number of SKUs in the firm’s product lines, and using recycled materials in production process. Since her company specialized in producing consumable products, she stated that becoming completely “green” was impossible. Finally, one respondent stated that her business unit lacked the authority to implement local sustainability initiatives unless the firm had received prior approval from the parent company. In such cases, hierarchical control served as a barrier (See the outer ring of Figure 3.1).

Three respondents suggested that despite the growing environmental-awareness sweeping across corporate America, many organizational cultures are still highly resistant to changes that improve environmental performance. Cultural factors such as an inability to change leaders’ and employees’ mindsets, habits, and processes represent significant obstacles to sustainable business practices implementation. For example, although SoftwareCo, a large US based Software Company with a dominant share of the personal computer software market, offers employees the option of telecommuting, the firm still maintains what is described as a face-to-face culture. Ambitious employees seeking to take part in intraorganizational opportunities are included if recognized, implying that employees must be on campus. In addition, one respondent describes employees who insisted on printing all e-mails, documents, and internal memos, despite having an array of digital storage and computing devices (e.g., a computer; PDA) to warehouse this
information. Also, one respondent suggested that senior-level decision makers are oftentimes biased in favor of less sustainable marketers due to established relationships, nationalistic biases, and habit. Finally, respondents ($N=2$) also describe organizational environmental-ambivalence as a limiting factor. Respondents thus suggest that there was not adequate demand to adopt green offerings or practices (See the outer ring of Figure 3.1).

In contrast with the pricing barrier alluded to above, many suggest ($N=7$) that what might be broadly described as cost barriers tend to block the adoption of green goods and services. Such barriers include the additional costs associated with adoption, which range from opportunity costs to inconvenience to the inability to accurately calculate the return on investment potential offered by more sustainable options. For instance, the vice president of BankCo stated that his organization is considering building a new LEED certified office, but given the substantial capital expenditure required to do so, the firm is also considering other investments which could reap higher rates of return. In many cases ($N=5$), the additional effort and time expenditure involved in adopting green offerings is mentioned as a cost borne by the firm that may exceed the benefits of adoption. As alluded to above, respondents ($N=2$) suggest that green marketers should provide them with more conclusive and persuasive evidence of the benefits involved with sustainable offerings adoption, including pay-back periods and return on investment estimates (See the outer ring of Figure 3.1).

Thus, respondents stated that three major groups of internal factors limited green goods and services adoption. These factors involve a firm’s characteristics ($N=5$), cultural factors ($N=7$), and costs considerations ($N=3$).

**Organizational Enablers to Adoption**

When the twenty industrial interviewees were asked why the organizations they work for have chosen to adopt green goods and services, answers revolved around three broad categories. The respondents suggested that doing so was (1) beneficial for business ($N=5$), (2) in accordance with their firms’ “core values” ($N=10$), and (3) in response to various forms of governmental intervention ($N=5$). The following discussion describes these findings in detail. Throughout the discussion, the reader can refer to the enablers listed in the arrows on the left hand side of Figure 3.1 pointing towards its center.
Beneficial for Business

Interviewees \((N = 5)\) claimed that firms adopt green goods and services for the benefits that doing so afford the company. Additionally, the respondents \((N = 3)\) refer to both internal and external pressures that propel firms towards purchasing sustainable offerings (See the upper most arrow of the left hand side of Figure 3.1).

First, the respondents \((N = 5)\) suggest that external pressure on the firm in the form of direct and derived demand strongly influence organizational decisions to adopt green goods and services (cf. Bishop et al. 1984). With regard to direct demand, business customers are calling for more environmentally-friendly inputs for operations, as companies are becoming increasingly concerned with sustainability issues (Baker and Sinkula 2005; de Ruyter et al. 2009; Drumwright 1994). Furthermore, a number of interviewees \((N = 5)\) claimed that firms incorporate green offerings into operations as a result of pressure to conform to industry-imposed norms. In such cases, the industry is suggested to have developed a set of standards that exceeded what is imposed by state and local regulatory agencies (Henriques and Sadorsky 2008). In addition to being subjugated by evolving industry standards, the nature of firm operations is limited to the specific types of materials used, causing organizations to lean towards purchasing environmentally-friendly products. Industry standards are particularly relevant to the commercial construction trade, as some decision makers fear that pollution created during the site development process can potentially “runoff” and contaminate the local water supply (See the upper most arrow of the left hand side of Figure 3.1).

Second, several company representatives \((N = 3)\), claiming to benefit from purchasing environmentally-sound products, maintained that firms did so to support green suppliers. In such cases, interviewees used non-economic buying criteria in decision making. Specifically, non-economic buying criteria were used to promote the financial solvency of firms whose missions resonated with the purchasing firm’s core values (Drumwright 1994). The behavior noted was usually associated with the company founder’s or a senior-level manager’s endorsement (Anderson and Bateman 2000; Bansal 2003; de Ruyter et al. 2009). In line with such reasoning, a strong linkage was suggested between a buying firm’s support of green suppliers and the creation of an image of social responsibility. Finally, the establishment of relationships with green suppliers, and the resulting air of social responsibility engendered, enhanced the buying
firm’s longevity, as doing so provided the buyer with a competitive advantage (Barney 1991) (See the upper most arrow of the left hand side of Figure 3.1).

Although the research was intended to investigate the reasons why organizations adopted environmentally-friendly products, themes concerning how consumers affected exchanges in the B2B marketplace surfaced. In particular, decision makers suggested that derived demand shaped firm’s behaviors (Bishop et al. 1984). They also stated that growing consumer demand was “not a fad,” arguing that the trend towards environmental-sensitivity has, in fact, yet to reach a zenith. This implies that organizations choosing to adopt green goods and services were optimistic about such offerings and that firms were willing to take on risk by selling them to end-users (See the upper most arrow of the left hand side of Figure 3.1).

Third, the respondents \((N = 3)\) suggested that adopting environmentally-sound products was associated with profitability. Two different perspectives emerged from the data with regards to this issue. One suggested emphasizing the possibility of increased sales, and consequently profitability; and, a second revolved around the cost savings that can accompany using green inputs. For example, consider that buyers \((N = 2)\) working in the financial services industry suggested that the recent flow of government stimulus money into green firms has increased their capacity to operate profitably, thus improving stock values. Green firms have enabled investment firms that sell stocks to share in this bounty, as profitable stocks, including ‘green’ ones, are more appealing to investors. In addition, the vice president of a large US based full-service banking firm with a sizable share of the domestic banking market suggested that prior to the recent economic downturn, many banks had been very profitable and thus were seeking investment vehicles to maximize returns on available capital. Banks found that investing in Leadership in Energy and Environmental Design (LEED) certified buildings represented an excellent opportunity, as doing so not only reduced pollutants and energy consumption, but it also increased the firm’s credibility, positioning the firm well with its customers and relative to its competitors (Lockwood 2007) (See the upper most arrow of the left hand side of Figure 3.1).

From a cost savings perspective, some respondents \((N = 2)\) suggested that green products did indeed help to reduce costs. Interviewees from buying firms pointed to less obvious opportunities, such as the reduction in paper use that electronic billing offers and to more capital intensive benefits, such as fuel and maintenance cost reductions that accompany the purchase of more sustainable equipment. Technological solutions were suggested to be the key to the cost
saving power that green products afford. For example, the following statement in which the manager of international trade compliance for HightechCo described the cost savings associated with adopting sustainable business practices: “Some of the things that drove us to adopt sustainable products and practices dealt with reducing paperwork and administrative duties. You'd be surprised at how much paperwork you need to transport international shipments!”

While some respondents (N = 2) praised the cost saving potential of environmentally-friendly solutions, however, several indicated that such investments might feature protracted pay-back periods (See the upper most arrow of the left hand side of Figure 3.1).

Several organizational respondents (N = 3) stated that going green, in addition to being good for customer perceptions of the firm, affected employee opinions as well (Bhattacharya et al. 2008; Ramus and Steger 2000). In fact, the executive operations manager for InsuranceCo suggested that a hospital’s movement towards sustainability was heavily influenced by employees. In such cases, employee morale increased as the company redirected purchasing efforts towards more environmentally-conscious suppliers, improved recycling efforts, and eliminated countless unsustainable practices. Many of the hospital’s employees were directly involved in the efforts, allowing employees an opportunity to contribute to the “well-being” of the facility (See the upper most arrow of the left hand side of Figure 3.1).

Finally, respondents (N = 3) mentioned cultural enablers, both at the national and local levels, which influenced the adoption of green offerings. For example, the director of communications for EntertainCo suggested that the green movement which pervades American popular culture has played a substantial role in influencing the implementation of sustainable business practices, as well as influencing the company’s content development. The same effect was found to exist at the community level. In fact, the founder of a regionally based pest control company specializing in sustainable treatment methods stated that he was able to transform his company from one featuring standard pest control techniques to one specializing in sustainable and non-invasive treatments due to the receptivity of the members of the community. The particular geographic area, he suggested, has an artsy flare, features high incomes, and resorts, and residents that place a strong emphasis on healthy living. The combination of cultural factors was suggested to enable adoption (See the upper most arrow of the left hand side of Figure 3.1).

In summary, both direct and derived demand were found to affect the purchase of sustainable products for both resale and for use as inputs in the production function. Many
companies have chosen to jump on the sustainability bandwagon in order to capitalize on the growing trend that is impacting B2B markets. The key finding is that many of the interviewees are optimistic about the positive effects that green offerings can provide. Additionally, many suggest that the adoption of green goods and services represents a gateway to profitability. In this vein, both cost savings and sales increases are related themes that emerge from the data. The implementation of sustainable business practices is shown to not only positively influence customer perceptions of the firm, but also to positively affect a firm’s employees (Ramus and Steger 2000). Perhaps, most interestingly, the converse is also found to be true. That is, a lack of sustainability efforts negatively affects both customer and employee perceptions. Finally, cultural influences are described as an enabling factor (See the upper most arrow of the left hand side of Figure 3.1).

Linked to Organizational and Core Values

Counter to the idea that economic buying criteria govern all purchasing decisions, additional reasons were mentioned by the current study’s organizational respondents. The respondents ($N = 10$) claimed to be motivated by a “higher calling,” or sense of “core values,” that was woven into the fabric of the organization (Carter and Jennings 2004). In fact, three broad themes associated with core values emerged from the data. Specifically, many respondents ($N = 10$) argued that firms adopted green offerings because of the benefits offered to the environment. Several mentioned that social issues were more important to managers and the firm. Finally, several ($N = 6$) alluded to an owner’s, or company founder’s, mandate in which the values of the organization were translated into actual, and sometimes less profitable, behaviors. The following discussion highlights each of the emergent themes (See the lower most arrow of the left hand side of Figure 3.1).

First, the overwhelming majority of respondents ($N = 14$) stated that incorporating environmentally-sensitive offerings into their production and operations efforts is not only good for the environment, but is also the right thing to do. This normative statement is implied in many of the respondents’ comments. For instance, when describing her firm’s use of electric powered vehicles on a sprawling corporate campus, a product marketing manager from SoftwareCo states that doing so is not only good for the environment and thus socially beneficial,
but also represents a relatively cheap form of transportation for the firm’s employees (See the upper most arrow of the left hand side of Figure 3.1).

In addition to suggesting that firms should abide by an implicit environmental imperative (Porter and Reinhardt 2007), several of the respondents ($N = 8$) described such efforts as linked to their legacy. That is, organizational employees suggested that they had an obligation to protect the environment for future generations. Furthermore, a few ($N = 3$) mentioned that environmental purchasing efforts had the potential to impact local communities, which could create connections with customers. Finally, while most ($N = 14$) agree that the firm’s raison d'être is to provide a service or good for the marketplace, some ($N = 4$) tended to wax philosophical as they described their responsibility to “repair” the damage inflicted on the environment by wayward firms. In regard to this sentiment, a few ($N = 3$) indicate that by purchasing environmentally-friendly products and services the firm is atoning for the sins committed by the organizations against the environment (See the lower most arrow of the left hand side of Figure 3.1).

Next, a number of the respondents ($N = 6$) stated that they adopted green goods and services in spite of price premiums that can accompany them. The theme was associated with the interviewee’s feelings of individual responsibility to protect the environment, of owner/senior-level decision maker preference, and of organizational aims at societal transformation. For example, PestCo’s founder, when commenting on the use of environmentally-conscious pesticides, stated that although the strategy was expensive when compared with other options, it’s about stewardship as every person has to do their part to help try to reverse the damage that we have done to the earth. In sum, organizational respondents claimed to place a higher value on influencing societal consumption patterns and in transforming the environment than on reducing operating costs (See the lower most arrow of the left hand side of Figure 3.1).

*Linked to Government Interventions*

Several of those interviewed ($N = 5$) suggested that government intervention increased the likelihood that employers adopt environmentally-sustainable products. Two distinct interventions were described. In particular, regulations that served to limit the harmful effects of non-sustainable practices and designed to spur the development of green goods and services
were mentioned. Each is discussed below. The reader is directed to both arrows on the left hand side of Figure 3.1

First, respondents \((N = 2)\) suggested that government regulations impacted firms’ decisions to go green. In this regard, regulations concerning the amount of automobile emissions, for example, played a role in determining which suppliers would be used to create parts for automobiles. Also, regulations, and predictions of impending legislation, provided the impetus for the creation of an entire industry. According to the president of EnvironmentalCO, a regional environmental certification consulting service, many firms needed guidance to navigate permitting issues, as regulations governing the release of negative externalities had recently grown more stringent (See the upper most arrow of the left hand side of Figure 3.1).

Next, some interviewees \((N = 2)\) described how government incentives were instrumental in decisions to adopt green goods and services. Specifically, interviewees discussed how the recently implemented governmental stimulus package enacted by the Obama administration was focused on funding environmentally-friendly business practices (Watson 2008). The government incentive was suggested to increase the probability of future returns on green investments. Consider the following statement made by a BankCo’s vice president, emphasizing the role of governmental intervention as a factor influencing his firm’s decision to invest in environmentally-sustainable firms. “Since the demand for ‘environmentally-friendly’ products has been increasing, it only makes sense to jump on the bandwagon to invest in and sell green mutual funds and ETFs [exchange traded funds]. Green products are the future. There is an incredible amount of money and government backing behind alternative energy and positive future performance from green financial products is almost guaranteed’’ (See the lower most arrow of the left hand side of Figure 3.1).

In summary, organizational respondents adopted environmentally-friendly goods and services because doing so was perceived to be good for a business on multiple levels. Respondents were motivated to do so because of both governmental regulations and incentives. In addition, the respondents claimed to adopt green offerings because of core values, which may have been influenced by organizational norms. Finally, those in the banking industry stated that the pent-up demand and high profit potential of green goods and services made for attractive investments.
**Organizationally Recommended Strategies to Overcome Barriers to Adoption**

When asked to describe some of the strategies that green marketers could use to overcome the barriers to adoption, respondents discussed three broad categories. These strategies related to the green firm’s communications, offerings, and actions. The following section provides an overview of each strategy. Throughout the discussion, the reader can refer to the strategies listed in the arrow on the right hand side of Figure 3.1 pointing towards its center.

**Communications**

Respondents \((N = 6)\) called for green goods and services providers to more effectively communicate with customers and potential customers. First, the respondents encouraged green marketers to educate organizations’ managers on the green options that are available, as many firms would prefer to adopt green offerings but oftentimes lacked the expertise and awareness of how to accomplish this goal (Shrivastava 1995). Interestingly, respondents \((N = 2)\) suggested that this strategy should involve providing information to both senior level decision makers, as well as frontline employees, implying that all employees play a role in the adoption process (Bhattacharya, Sen, and Korschum 2008; Carter and Dresner 2001). For example, an executive operations manager working for InsuranceCo, which described the attitudes of its unionized workforce as a potential adoption barrier to paperless paycheck implementation, suggested that union membership should be shown the benefits involved, while reassuring them that the risks of adoption would be minimal. Also, the Director of Marketing for TechEducationCo stated that green marketers should make an effort to “get in front of decision makers” and to let them know what can be done to help the company reduce its carbon footprint.

Next, respondents \((N = 3)\) indicated that green marketers may want to leverage testimonials from both competing and non-competing firms on how they were able to successfully adopt green offerings and how doing so would improve their organizations’ environmental performance. These efforts, they suggested, would make the case for adoption more compelling, as unbiased testimonials would help build credibility. Finally, respondents \((N = 2)\) stated that marketers should do a better job of marketing to end-users and consumers. In fact, citing Intel’s efforts to develop brand recognition and thus to drive derived demand, a senior vice president from BankingCo, suggested that these marketers should increase their ad spend...
and work on more effectively generating consumer awareness (See the arrow of the right hand side of Figure 3.1).

Offerings

Respondents \((N = 4)\) also stated that green goods and services marketers should ensure that offerings are genuinely sustainable, not functionally deficient, and truly beneficial to the firm (Meredith Ginsberg and Bloom 2004). With regards to the first offering related strategy, respondents suggested that firms should show green credentials. That is, marketers should be prepared to conclusively demonstrate that a firm’s offerings do indeed contain environmentally-friendly attributes. In fact, when referring to her firm’s supply chain partners, the manager of trade compliance for a high-tech medical equipment firm suggested that managers needed to demonstrate that the firm operated in an environmentally-conscious manner, which might mean ensuring that the firm used ethanol as a major source of fuel. Next, \((N = 3)\) respondents argued that green marketers should not only ensure that offerings are green, but also embody effective functional characteristics. A brand manager for USCo stated that the firm is more than willing to adopt green goods and services as long as doing so does not entail sacrificing quality or other key product attributes. Finally, several respondents \((N = 4)\) suggested that green offerings must provide the adopting firm with cost savings as well as environmental benefits in order for them to be seriously considered. In this regard, the admissions director from EduCo suggested that green marketers must conclusively demonstrate that cost savings accrue to a firm as a consequence of adoption. In addition, he asserted that marketers may offer to share insights into how their other customers are benefiting as a result of adoption (see above discussion on testimonials) (See the arrow of the right hand side of Figure 3.1).

Actions

Interviewees \((N = 10)\) also alluded to several strategies that revolved around green marketers’ actions. In this regard, a market research manager for ConsumerproductsCo stated that green companies need to convincingly demonstrate reliability and capacity to fill orders before larger customers will categorize them as viable suppliers. Green companies may simply lack the scale to work with her company. Other respondents \((N = 4)\) suggested that green marketers must establish deep and highly committed relationships with customers. The owner of
a regionally based sustainable pesticide service stated that such efforts might entail marketers initiating contact on a regular basis, and constantly updating on new products and services that can be used to win more business. Lastly, many respondents ($N = 4$), as alluded to above, suggested that by strategically lowering prices based on either usage rates or on the longevity of relationships, marketers could become more embedded with their customers (See the arrow of the right hand side of Figure 3.1).

In short, respondents ($N = 20$) suggested that a combination of green goods and services providers’ actions, communications, and offerings would help them to effectively overcome most of the barriers to adoption.

Consumer Barriers to Adoption

Consumer respondents described two broad factors when asked to describe some of the factors that inhibited green goods and services adoption (See Tables 3.4 and 3.6). Specifically, the consumer respondents ($N = 6$) suggested that the offering’s characteristics and their own natural tendencies ($N = 6$) represented barriers. The following section provides an overview of these factors. The reader can refer to the barriers listed in the outer ring of Figure 3.2.

Consumer Characteristics

Consumer respondents ($N = 6$) frankly stated that despite the recently rekindled environmental movement, many remained ambivalent to environmentally-sensitive goods and services. The prevailing sense of consumer apathy, several ($N = 4$) claimed, existed due to a general lack of faith in the effects of efforts to repair the natural environment (Ellen et al. 1991). While several consumer ($N = 4$) respondents suggested that choosing to adopt green offerings was a personal choice, and thus not easily influenced, several ($N = 4$) stated that the benefits associated with certain products was not easily understood. Additionally, respondents ($N = 2$), perhaps cynically, suggested that the entire sustainability mindset was a ruse, claiming that allegedly environmentally-sensitive firms had deliberately chosen to dub their products “green” as a marketing gimmick designed to increase sales to a gullible public. Finally, two consumer respondents were candid enough to state that they had chosen not to engage in environmentally-sustainable actions out of a desire to guard personal interests. Such consumer respondents did not recycle and would not buy green offerings, as consumer respondents were unwilling to
sacrifice time or money, which was held in higher regard than efforts intended to protect the planet (See the outer ring of Figure 3.2).

Offering Characteristics

Several consumer respondents \((N = 6)\), on the other hand, suggested that the barriers to adoption were not related to internal characteristics and preferences, but instead to characteristics inherent in the offering. Consumer respondents \((N = 2)\) claimed not to adopt sustainable automobiles, for example, because such vehicles were not visually appealing. In addition to suggesting that green goods and services lacked aesthetic appeal, respondents stated that when compared with non-sustainable counterparts, green offerings were limited in terms of quality (Meredith Ginsberg and Bloom 2004). Unfortunate problems were oftentimes coupled with complaints concerning green offerings’ price premiums and extended pay-back periods. Finally, many consumer respondents \((N = 4)\) suggested that green offerings were not widely available. The convenience barrier effectively removed green options from consideration sets (See Figure 3.2).

Thus, consumer respondents \((N = 20)\) suggested that product characteristics, as well as their personal characteristics, represented two substantial barriers that must be overcome to encourage adoption (See the outer ring of Figure 3.2).

**Consumer Enablers to Adoption**

As was the case with the aforementioned consumer barriers, consumer respondents outlined two overarching enablers when asked to describe some of the factors that facilitated adoption of green goods and services. Specifically, consumer respondents \((N = 20)\) suggested that both firm \((N = 12)\) and individually related factors \((N = 18)\) were instrumental in encouraging adoption behaviors. The following section discusses each, while providing details on identified subcategories. Through out the discussion, the reader can refer to the enablers listed in the arrows on the left hand side of Figure 3.2 pointing towards its center.

**Firm Related Characteristics**

Regarding firm related characteristics, consumer respondents \((N = 3)\) pointed to green marketers’ abilities to generate consumer awareness of offerings as key to facilitating the
adoption process. Consumer respondents ($N = 2$) suggested that successful firms’ green ‘signals’ exceeded the ‘noise’ in the crowded marketplace. Effective advertising, respondents claimed, lead to consideration of green offerings, while simultaneously educating them on the benefits of adoption. Some consumer respondents ($N = 2$) suggested that the ubiquity of green offerings in the marketplace played a central role in adoption behaviors. In particular, some ($N = 5$) stated finding going green to be much easier to do now than in the past, given the widespread availability of green alternatives. In addition, consumer respondents ($N = 2$) stated that the quality of green goods and services oftentimes exceeded that of non-green options, strengthening the case for paying an accompanying price premium. Finally, many ($N = 3$) of the consumer respondents found that buying green offerings was convenient. This factor was particularly important to most, as consumer respondents ($N = 2$) suggested that time utility had grown more important to them (Bhate and Lawler 1997; McCarty and Shrum 2001) (See the upper most arrow of the right hand side of Figure 3.2).

Consumer Needs Related Characteristics

Many consumer respondents ($N = 18$) suggested that factors related to underlying needs influenced adoption patterns. Paralleling the categories found in Maslow’s hierarchy, those that emerged from consumer responses centered on how green offerings provided for their basic, safety, esteem, and transcendental needs (Maslow 1943). The following section discusses each in turn.

Basic Needs

First, consumer respondents ($N = 2$) suggested that although the idea of using green products was important, satisfying basic needs had to take priority (D’Souza, Taghian, and Khosla 2007; Meredith Ginsberg and Bloom 2004). In such cases, consumer respondents ($N = 2$) adopted green offerings and practices when doing so availed an opportunity to save money or to reduce consumption. In particular, consumer respondents ($N = 2$) suggested that by purchasing a hybrid car allowed gasoline usage reduction as gasoline costs had recently escalated to an all-time high. Furthermore, consumer respondents ($N = 2$) suggested that although green goods and services oftentimes were accompanied by a price premium, coupons and discounts incentivized trial. In some instances, consumer respondents subsequently developed an
appreciation for such products and were encouraged to continue future use (See the lower most arrow of the right hand side of Figure 3.2).

Safety Needs

Consumer respondents ($N=3$) also stated that choosing to adopt green offerings provided individuals and their families with needed protection and safety. Consumer respondents described green and organic offerings as a healthier alternative to regular products. With less chemicals found in sustainable offerings ranging from organic milk to cleaning products consumers suggested adoption would have long-term benefits for them and their families. Finally, consumer respondents ($N=2$) also suggested that green offerings would also provide pets with safety benefits. Specifically, non-invasive cleaners and pesticides were suggested to protect animals from dangers associated with accidental ingestion (See the lower most arrow of the right hand side of Figure 3.2).

Esteem Needs

Consumer respondents ($N=2$) implied that esteem needs were also fulfilled when green offerings were purchased (Goldstein, Cialdini, and Griskevicus 2009). In particular, a few consumer respondents suggested that entry into certain social circles was predicated on adoption of sustainable behaviors and products. For example, a consumer respondent stated that buying green offerings represented socially acceptable behavior amongst his circle of friends, while not doing so was strongly discouraged. Another consumer respondent described her actions stemming from belonging to ShopToEarn, a web-based consortium of retailers specializing in the promotion of sustainable offerings. Not only was purchasing sustainable offerings rewarded by recognition from peers, but also provided financial rewards (See the lower most arrow of the right hand side of Figure 3.2).

Transcendental Needs

Finally, consumer respondents ($N=4$) adopted green offerings as a result of a ‘higher calling.’ These ‘transcendental adopters’ enjoyed personal satisfaction from purchasing green goods and services as such behavior is not only doing the right thing for themselves, but also for
future generations. In fact, some described adoption behaviors as almost spiritual, suggesting that adoption created a ‘connection with the planet.’ The consumer respondents oftentimes boasted of an ability to see the long-term benefits that adoption afforded, which was frequently obfuscated to others. In short, consumer respondents suggested that firm and individual related factors influenced adoption of green goods and services (See the lower most arrow of the right hand side of Figure 3.2).

Consumers Recommended Strategies to Overcome Barriers to Adoption

When asked to describe some of the strategies that green marketers could use to overcome barriers to adoption, consumer respondents suggested that the four marketing mix elements could play a role. In particular, the consumer respondents mentioned strategies related to a green firm’s promotion (N = 8), place (distribution) (N = 4), products (N = 3), and pricing (N = 8) as potentially effective at winning new customers, as well as engendering loyalty from established ones. The following discussion reviews consumer respondents’ perceptions of how green firms should leverage each marketing mix component when marketing green offerings. Throughout the discussion, the reader can refer to the strategies listed in the arrow on the right hand side of Figure 3.2 pointing towards its center.

In terms of promotion, consumer respondents (N = 8) suggested that green goods and services providers should try to more effectively communicate with customers and potential customers (Carlson, Grove, and Kangun 1993). In addition to increasing awareness through effective advertising, consumer respondents (N = 3) encouraged marketers to educate consumers on availability and to clearly demonstrate the benefits of adoption (Banerjee, Gulas, and Iyer 1995). Interestingly, consumer respondents (N = 2) suggested that firms enacting such a strategy should ensure that all firms and products are portrayed authentically (Bloom, Hoeffler, Keller, and Basurto 2006). However, at the same time, some consumer respondents (N = 2) suggested that firms employ emotional and fear based appeals that convey a sense of urgency to an oftentimes apathetic consumer base (Schuhwerk and Lefkoff; Hagius 1995). This logic, however, was balanced with recommendations from other consumers which concluded that firms should take a cautious approach and employ segmentation strategies based on consumers’ needs (Downs and Freiden 1983) (See the arrow of the right hand side of Figure 3.2).
Consumer respondents also stated that green marketers should make offerings more readily available in the marketplace (Bhate and Lawler 1997). In this regard, many consumer respondents ($N = 4$) claimed convenience barriers could be overcome through more effective distribution. In fact, two consumers suggested that green options should be more frequently placed alongside non-green counterparts in retail settings. Consumers could thereby more easily compare products and, perhaps most importantly, remember that there are green options from which to choose (See the arrow of the right hand side of Figure 3.2).

In accordance with findings in the literature, consumer respondents ($N = 3$) suggested a willingness to purchase and use green offerings, as long as doing so did not compromise the salient product attributes that had originally elicited a desire to make a purchase (Meredith Ginsburg and Bloom 2004). The respondents strongly recommended that green marketers develop reliable, durable, and innovative products in which core characteristics, first, satisfied needs, while simultaneously containing environmentally-conscious attributes. Such respondents also suggested that, prior to marketers introducing a new product, firms should ensure that the product is indeed environmentally-friendly (See the arrow of the right hand side of Figure 3.2).

Finally, consumer respondents ($N = 8$) recapitulated some of the comments from organizational buyers regarding pricing issues. In particular, consumer respondents suggested that by lowering prices, green goods and service providers would be able to sell more and to increase market-share. Many consumer respondents ($N = 6$), however, recommended that marketers attempt to keep offerings at the same price levels as non-sustainable counterparts. Consumer respondents also stated that by offering incentives and discounts, green marketers could invoke trial and possibly win new customers (See the arrow of the right hand side of Figure 3.2).

In sum, consumer respondents called on green firms to leverage marketing’s four Ps to overcome some of the barriers to adoption.

Discussion and Implications

The research presented identified factors that influence the adoption of green goods and services in both industrial and consumer markets. A grounded theory analysis of 40 in-depth interviews was conducted (Morgan et al. 2005). A pair of comprehensive conceptual models,
populated with novel constructs that coalesced from an iterative analysis of interviews (See Figures 3.1 and 3.2). The research contributes to marketing theory and practice as it develops a theory of barriers to and enablers of adoption, and offers insights for adopting firms, green marketers, and consumers. The following section provides an overview of the research findings with a particular emphasis placed on areas that have not received widespread attention in the literature. In addition, managerial implications are offered.

Organizational adoption

First, with regards to organizational adoption, a combination of supplier related and intraorganizational barriers were found to inhibit adoption. The findings suggested that green marketers should develop sensitivity to how marketing mix elements can be manipulated as supplier firms endeavor to sell buyer firms on the viability of adopting green offerings. In particular, green marketers must recognize the role that pricing plays in the adoption process. The research also suggests that producers of green offerings should ensure that customers experience minimal difficulty in locating green products and incorporating the products into their operations. With regards to promotional efforts, the results suggest that green companies develop compelling presentations to convince sometimes risk averse purchasing agents and organizational champions of the benefits of adoption. In terms of product barriers, the results indicate that suppliers should develop reliable products that do not compromise core attributes, such as quality, durability, and reliability, to encourage green goods and services adoption (See Figure 3.1).

Next, in terms of intraorganizationally related adoption barriers, green marketers should demonstrate flexibility to potential customers. Collaboration and co-production efforts might allow firms to traverse seemingly insurmountable barriers such as firms featuring a unionized workforce. In addition, green marketers must become cognizant of, and develop techniques to overcome, lingering environmental-ambivalence. The results suggest that green marketers must be able to conclusively identify and quantify the benefits associated with adoption. The same logic applies to cost barriers. Specifically, green marketers must be able to clearly articulate the return on investment potential of green offerings. Firms may find it useful to develop new metrics that illustrate the long-term impact on environmental performance, as well as improvements to consumers’ impressions of the firm that may result as several organizational
respondents mentioned return on investment concerns surrounding green offering adoption (See Figure 3.1).

Organizational interviewees stated that three factors enabled green goods and services adoption. First, organizational respondents suggested that doing so was good for business. Respondents claimed that adopting green offerings resulted in an improvement in both employee and customer perceptions of the firm. The results suggest that although investments in sustainable business practices and offerings may not immediately result in positive financial gains, such investments should augur well for long-term financial payoffs. Adoption is associated with changes in impressions of the organization’s social responsibility level. The same logic applies to the adopting organization’s support for green suppliers which represents socially responsible organizational efforts intended to safeguard the financial solvency of smaller green firms (See Figure 3.1).

Government interventions were also described as an enabler to the adoption of green goods and services. Regulations and incentives strongly encouraged compliance to exacting environmental standards. The results suggest that the government can and does play a strong role in ensuring that firms are motivated to act responsibly. In other words, policy makers have been and may continue to be influential in protecting the planet from the impact of business activities (See Figure 3.1).

Finally, the organizational implementation of green offerings was tied to organizational and core values. Organizational champions were suggested to spur adoption, implying that innovative employees can make a difference in influencing their firms’ behaviors. It also suggests that organizational leaders should pay close attention to employees who are willing to share opinions as to how to position the firm in an increasingly competitive business environment. Additionally, the results portray firms as altruistic, suggesting that some seek to influence societal consumption patterns. Respondents, finally, claimed that firms chose to adopt green offerings in order to rectify the damage done to the planet, making amends for environmental malfeasances (See Figure 3.1).

Organizational respondents recommended that green marketers leverage three strategies to overcome firms’ adoption resistance. The elements might be simply categorized as encouragement that green vendors adopt a green market orientation (See Essay 2). More concretely, respondents suggested that firms align offerings, actions, and communications in
such a way that a firm clearly articulates an overarching organizational mission that centers on the simultaneous achievement of environmental stewardship goals. This recommendation calls for wholesale organizational change to accomplish traditionally diametrically opposing goals. Conversely, this recommendation may prove to be beneficial to green marketers as it may strengthen positions and offerings, in a growing marketplace (See Figure 3.1).

Consumer Adoption

With regards to consumer adoption, a combination of consumer and product characteristics were found to inhibit adoption. In terms of the former, the results suggest that negative consumer traits, such as environmental apathy, skepticism towards firms endeavoring to ‘go green,’ and self-serving behaviors were mentioned as obstacles. The emergence of the identified factors implies that green marketers should attempt to stimulate consumer interest in environmental issues. First, firms should help consumers recognize the gravity of the environmental problem while informing them that a firm’s offerings can potentially contribute to the solution. With regards to consumer skepticism towards firms, green marketers should demonstrate a genuine concern about the environment and that a firm’s efforts are authentically geared towards helping to repair the damage done to the planet. As alluded to above, certifications, environmental labeling, and alliances with third-party NGOs may help a firm build credibility with disenfranchised consumers (Crane 1998; D’Souza, Taghian, Lamb, and Peretiatko 2007). Furthermore, firms should take measures to ensure that green offering adoption is convenient. Moreover, the results also suggest advertising is sculpted in such a way that it demonstrates how pro-environmental consumption and practices benefit the individual (Schuhwerk and Lefkoff-Hagius 1995) (See Figure 3.2).

With regards to the product characteristics barrier, green marketers may want to re-evaluate a green offering’s aesthetic appeal. As a barrier, product characteristics were mentioned several times, especially in reference to the Toyota Prius. Consumer respondents stated that a willingness to purchase a green offering, such as the Prius, as long as salient product attributes were not compromised. The same logic applied to quality considerations. In this regard, consumer respondents suggested that “people think that green [offerings] are not as high in quality.” Thus green marketers should carefully reexamine offerings for both quality and visual appeal, ensuring that such attributes are not neglected at the expense of environmental
Finally, several consumer respondents stated that green products are not widely available. According to consumer respondents, the current, limited levels of marketplace acceptance presented potential users with risk. Specifically, some respondents were concerned that the necessary fuels and charging apparatus to operate a hybrid car might not be accessible. Such network effects need to be addressed before green marketers can expect consumers’ to consider green offerings as a viable alternative (See Figure 3.2).

Consumer respondents described two broad categories of adoption enabling factors. Factors related to a green firm’s characteristics and consumer needs were mentioned. When describing firm characteristics, consumer respondents observed that many green marketers were effective at generating consumer awareness for green goods and services. The results suggest that some marketers have successfully developed compelling, informative, and persuasive advertising campaigns. The results imply that firms having less success in promoting green offerings may want to refine marketing efforts. Such green marketers may experiment with the type and strength of the appeal used in ads, tailoring ads towards specific segments of consumers based on an affinity for the green movement. Second, consumer respondents stated that the ubiquity of green offerings spurred adoption. The results may imply that firms which have not enjoyed sales success should endeavor to improve distribution. Also, in contradiction to a commonly described barrier, the quality of green goods and services was mentioned as an enabler. The results suggest that some green marketers have successfully incorporated sustainable attributes into green offerings without compromising necessary functional attributes. Finally, and in opposition to the aforementioned concerns raised regarding convenience, several consumer respondents suggested that the adoption green offerings required minimal effort. The results indicate that successful adoption is contingent on the perceived ease of use. Thus, ease of use considerations should be incorporated in offerings during the development process, in addition to being mentioned in promotional efforts (See Figure 3.2).

Consumer respondents also suggested that personal needs influence adoption. Closely aligned with the personal needs and values outlined in Maslow’s hierarchy, the findings indicate that basic, safety, esteem, and transcendental needs are instrumental in consumers’ decisions to use green goods and services. Consumer respondents alluded to green offerings’ potential to help satisfy basic needs. In such cases, green alternatives are found to be less expensive and resulted in consumer savings. In addition, consumer respondents suggested that green offerings
protected families and pets, implying that green marketers should expound on such qualities in promotional efforts as well. Moreover, consumer respondents stated that green purchasing patterns were tied to esteem needs. Consumers were welcomed into environmentally-conscious social circles as a result of adopting certain goods and services. This information suggests that green marketers should either develop exclusive green clubs where admission is based on purchasing requirements or should establish ties with green organizations (e.g., Green Peace, the Sierra Club) to draw consumers seeking to satisfy a need for belonging. Finally, consumers claimed that the adoption of sustainable offerings enabled a connection with a higher power. Thus, green purchasing allows the fulfillment of transcendental needs. Green marketers may find that appealing to such a consumer need to be effective (See Figure 3.2).

Interestingly, consumer respondent recommended strategies to overcome the identified barriers to adoption coalesced into the traditional four Ps of marketing. As described above, the four Ps framework was also suggested as an overarching barrier to organizational adoption. When asked how green firms could effectively traverse consumer barriers, consumer respondents recommended that green marketers promote their wares more effectively. Such efforts may prove to be difficult to accomplish, as consumer cynicism caused by green-washing firms pervades the marketplace. Care must be taken in how firms attempt to promote green offerings, as research suggests that consumers punish firms for exaggerating claims of environmental-sensitivity. In addition, consumer respondents mentioned using distribution to ensure that green options were available in the marketplace. Such a strategy implies that green goods and services providers establish relationships with retailers. However, in order to do so, green marketers must conclusively demonstrate to retailers that green offerings are indeed in demand. Given green product failures and sluggish sales performance, techniques such as product consignment which do not place retailers at risk may prove to be an effective mechanism for accomplishing this goal. With regards to products, as alluded to above, consumer respondents indicated that core product features would not be compromised to “save the environment.” Green product failures may have resulted from a lack of fundamental properties (e.g., a “green” household cleaner that is ineffective). Finally, consumer respondents suggested that green marketers price products appropriately. Although some consumer respondents stated that a price premium may be necessary to develop and market green offerings, the overwhelming majority suggested that firms engage in “green-gouging.” That is, green marketers charge inordinate prices in an effort to
capitalize on consumers’ concern for the planet. Thus, green marketers should competitively price green offerings as such efforts may induce product trial and reduce the risk of negative consumer impressions accruing to the firm (See Figure 3.2).

Conclusions, Limitations, and Research Extensions

The research presented suggests that the adoption of green goods and services is complicated. Organizations and consumers alike face a myriad of barriers to adoption (See Figures 3.1 and 3.2). Fortunately for green marketers, adoption barriers may not be insurmountable as organizational and consumer respondents provided an array of implementable strategies that green marketers should carefully consider. The following section discusses how the findings from the research presented contributes to practice and to theory. Finally, the limitations of the research are discussed.

Contributions to Practice

First, with regards to organizational adoption, this information suggests that companies seeking to capitalize on demand should resist the temptation to employ a “skimming” price strategy, eliminate place barriers by making green offering adoption seamless and intuitive, more effectively promote to seemingly indifferent organizational leaders, and develop innovative green products and solutions. In addition, green vendors should seek to understand potential customers’ organizational cultures and be able to convincingly demonstrate the value of adopting green offerings to prospects. With regards to consumer adoption, the information found suggests that green companies should endeavor to eliminate consumer apathy. Perhaps, efforts should be made to more effectively demonstrate the gravity of the environmental problem faced by humanity to apathetic consumers. In addition, green companies should attempt to eradicate consumer skepticism regarding the greenness of offerings by using third-party verification systems (e.g., government sanctioned labeling programs) and social media (e.g., electronic word of mouth). Furthermore, green firms should ensure that newly developed products are amenable to consumers. Specifically, green offerings should be visually appealing, at parity in terms of quality, and widely available in the marketplace (See Figures 3.1 and 3.2).

Contributions to Theory
As alluded to above, the resulting conceptual models represent two midrange theories on the adoption of green goods and services from both organizational and consumer perspectives (cf. Behling 1978; Eisenhardt and Bourgeois 1988; Strauss and Corbin 1998). The theories are referred to as such in that they are context specific. That is, the theories explain the interrelationships amongst variables that emerged from an analysis of in-depth interviews centering on the adoption of green offerings. This effort fills a major gap in the literature, as few attempts have been made to inductively create theories that specifically deal with the nuances of green product adoption (cf. Drumwright 1996). Thus, the main theoretical contribution of the research presented is the research contained herein.

In addition, however, the theories presented contribute to theory building by spurring future research efforts. In particular, constructs appearing in each model could be operationalized in future research. For example, survey research could be conducted to determine the impact of a firm’s adoption of green offerings on consumer’s purchase intentions. Future research could also be conducted to examine the robustness of the studies findings. Using quantitative methods, research could study how factors such as context, industry, and firm size influence the emergence of certain barriers and enablers and that minimize others. For example, studies could test the findings which suggest that the adoption of green goods and services is good for business or when government intervention is beneficial. Size, asset positions, market share, and stock market capitalizations may prove to be moderating factors. Additionally, research using sociometric techniques could test the affects of green product adoption on both relationship creation and maintenance. Furthermore, econometric analyses could be conducted to assess the impact of adoption on financial outcomes. In short, the research presented calls for future research to empirically assess the relationships identified in the conceptual models.

Limitations

Several limitations should be considered when evaluating the results. First, although two conceptual models were developed containing a wide array of constructs to be operationalized in future research, the consumer and organizational interviews focused on barriers, enablers, and strategies to overcome the barriers solely from one perspective, that of the buyer. Next, although respondents were from different sized organizations and from across multiple industries,
international respondents were not interviewed. This may limit the results, as respondents from lesser developed countries and different cultures may view adoption differently. That is, they be more environmentally-sensitive and hence face fewer barriers to adoption, for example. Or respondents may be resistant to protecting the environment, as concerns for economic development may outweigh their environmental concern. In short, this calls for additional cross-national research to allow for a deeper understanding of the adoption process in an international context. This same logic applies to the consumer respondents. Specifically, although efforts were made to closely follow the grounded theory approach (e.g., theoretical sampling, constant comparisons between emerging constructs and the data, and sensitivity to theoretical saturation) (cf. Strauss and Corbin 1998) and despite the fact that the theory presented is informative and conceptually dense, some might question the robustness of the findings to other cultures. This situation, also, calls for future research in which consumers from different cultures are interviewed using the grounded theory approach found herein to investigate the barriers, enablers, and strategies to overcome the barriers (cf. Strauss and Corbin 1998). The research presented may be limited as only a sample of the dataset was tested for reliability. Finally, the findings may be limited in that interview data may be interpreted differently and in that the findings do not allow for an examination of internal validity.
CHAPTER 4

ESSAY 2

Green Market Orientation: Perceptions of Firm-Level Environmental Sensitivity

Abstract

Highly publicized threats to the environment have elevated consumer awareness of the potential damage caused by firms engaging in environmentally non-sustainable business practices. As these threats grow imminent, stakeholders have united, calling for corporations to market “green” products. Many firms heeding this call have enjoyed acclaim. However, many have not. The research presented addresses this problem. More specifically, it appraises the potency of the organizational adoption of a green market orientation. Using three studies, this research finds that embarking on a green market orientation positively impacts consumer perceptions of the firm’s corporate altruism (based on Lichtenstein, Drumwright, and Braig’s [2004] corporate social responsibility), their satisfaction, and a measure of consumer outcomes (based on Zeithaml, Berry, and Parasuraman’s [1996] behavioral intentions to towards the firm). The findings also suggest that perceptions of firm’s authenticity moderate the relationship between its adoption of this strategy and consumers’ satisfaction levels.

Introduction

The ratification of the Kyoto Protocol represents the global acknowledgement that industrialization has had a profound effect on the environment. Sweeping changes in the way we live have been recommended to minimize the future damage of our fragile planet (Meadows, Randers, and Meadows 2004; Packard and Reinhardt 2000; Schaefer and Crane 2005). In fact, recognition of the looming threat posed by environmental degradation has made for strange bedfellows. Consider, for example, that environmentalists and consumer activists, once cast as opposed to business, are now joining forces with captains of industry to promote sustainable business practices, as well as to develop ‘green’ (environmentally-friendly) goods and services (Ottman 1992; Ottman 1998; Kalafatis, Pollard, East, and Tsogas 1999). Also, firms espousing an environmentally-sensitive approach to doing business, or maintaining a green market
orientation, have not only received accolades from environmental protection groups such as The Sierra Club and Greenpeace, but they also have been championed by environmentally-vigilant consumers (Handfield, Walton, Seegers, and Melnyk 1997; Porter and van der Linde 1995; Jones 2008; Mendleson and Polonsky 1995). Finally, reflect on the impact of the Sydney 2000-Greenpeace alliance (Polonsky 2001). The joining of diametrically-opposed forces signals that hosting the Olympics, counter to intuition, would not place a strain on an already taxed and heavily populated eco-system, alleviating Australian environmentalists’ greatest fears (Mendleson and Polonsky 1995). In sum, sustainability concerns have been given credence and have had a unifying effect on multiple, and oftentimes adversarial, parties.

In addition, the increased awareness of this threat has resulted in a growing consumer demand for green goods and services. In fact, green product sales in the US exceeded $200 billion or 1.44 percent of the United States GDP in 2007, with no signs of slowing (Bonini and Oppenheim 2008). In addition, projections show that consumer demand for green offerings will double over the next two years (Washington Business Journal 2008). Further underscoring an escalating consumer fascination with green products and services, returns on green stock portfolios have eclipsed those of the S&P 500 by as much as ten percentage points (Tanzer 2007; Washington Business Journal 2008). The evidence suggests that organizational environmental-sensitivity is not only called for, but that it is rewarded by the marketplace, contradicting the tacit assumption that environmentally-sustainable business practices and economic prosperity are mutually exclusive pursuits.

Despite the evidence supporting the adoption of a firm-level green market orientation, however, there is also mounting evidence that this may be a risky strategy. In particular, some research shows that the consumer response to green offerings can be characterized as lukewarm (Balderjahn 1988; Cleveland, Kalamas, and Laroche 2005; Kalafatis et al. 1999; Laroche, Bergeron, and Barbaro-Forleo 2001; Ottman 1992). Consider that Monsanto’s genetically modified seeds, Shell’s Pura gasoline, Phillip’s Earthlight, and Timberland’s organic cotton t-shirts have each failed to meet sales expectations (Esty and Winston 2006; Ottman, Stafford, and Hartman 2007; Peattie and Crane 2005). Although this apparent lack of marketplace acceptance may be related to consumer skepticism towards these products’ level of “greenness,” several factors such as convenience and price have been identified as barriers to their adoption (D’Souza, Taghian, and Khosla 2007; McDonald and Oates 2006).
In short, there is empirical support for two countervailing positions. One advocates the implementation of a green market orientation (Menon, Menon, Chowdhury, and Jankovich 1999; Osterhus 1997; Rowlands, Parker, and Scott 2002). A second position that discourages organizations from doing so, as it suggests that ‘going-green’ represents a risky and unsubstantiated strategy (Balderjahn 1988; Banerjee, Iyer, and Kashyap 2003; Cleveland, Kalamas, and Laroche 2005; Prahalad and Hamel 1990).

The research presented seeks to examine the impact of the adoption of a green market orientation. Specifically, it attempts to resolve conflicting findings regarding the feasibility of adopting this strategy by conducting a series of studies. To begin, a measure of a firm’s green market orientation is operationalized (Churchill 1979). Next, the newly developed measure is used to investigate the impact of implementing green strategies. More concretely, the effects of green strategies on consumer satisfaction, perceptions of the firm’s social responsibility, and consumer outcomes are examined. Finally, since consumers have been shown to be suspicious of firms that promote environmental-sensitivity, the moderating effects of the firm’s authenticity are tested on the aforementioned linkages.

The essay proceeds as follows: First, to introduce the reader to the constructs identified in the research model, a brief conceptual background is provided. An overview of the methods employed and the results that are found in the research process follows. Finally, a section discussing the research findings, and their implications for both theory and practice, is offered.

Conceptual Development

Green Market Orientation

Although the notion of a firm-level green market orientation has received some coverage in the literature, efforts at its conceptualization are arguably incomplete and the research stream ongoing (cf. Drumwright 1996; Menon et al. 1999; Menon and Menon 1997; Stone and Wakefield 1999). Generally speaking, however, a firm adopting a green market orientation is characterized as developing environmentally-sensitive offerings, acting in an environmentally-friendly manner, and promoting awareness of the behaviors (Baker and Sinkula 2005; Menon et al. 1999; Osterhus 1997). While green response may take on a number of forms, such efforts primarily involve developing new, more sustainable products, streamlining operations and
distribution systems, and promoting the firm as environmentally-sensitive (Banerjee, Iyer, and Kashyap 2003; Kleindorfer, Singhal, and Wassenhove 2005; Linton, Klassen, and Jayaraman 2007; Menon et al. 1999). For example, Menon and Menon (1997) suggest that a firm maintaining a green market orientation embodies a combination of a firm-level entrepreneurial spirit and a deep appreciation for the natural environment. Rather than viewing ecological issues as a threat, firms espousing a green orientation redefine such issues as revenue generating opportunities, and thus aligned strategic efforts to simultaneously satisfying economic and social objectives (cf. Varadarajan 1992). Additionally, the organizational adoption of a green market orientation is suggested to result in positive consumer outcomes (Menon et al. 1999; Menon and Menon 1997; Osterhus 1997). More specifically, the implementation of a green market orientation has been shown to positively impact customer perceptions of a firm and thus to affect firm performance (Baker and Sinkula 2005; Menon et al. 1999; Menon and Menon 1997; Stone and Wakefield 2000).

It should be noted that efforts to operationalize a firm-level green market orientation have received limited attention in the literature. Referred to as a firm’s eco-orientation, for instance, it has been operationalized as a multidimensional, latent construct composed of intelligence gathering and dissemination and organizational responsiveness, as it is based on the market orientation construct (Kohli and Jaworski 1990; Kohli, Jaworski, and Kumar 1993; Stone and Wakefield 2000). A firm-level green market orientation also has been operationalized as enviroprenuerial marketing, a multidimensional construct centering on the firm’s recognition that environmental issues are opportunities related to its environmental commitment and righteousness, paralleling seminal conceptualizations (Menon and Menon 1997; Varadarjan 1992). Labeled as a firm’s natural environmental orientation, it has also been operationalized as a multidimensional construct embodying entrepreneurship, corporate social responsibility, and commitment to the environment as its components (Banerjee 2002; Menguc and Ozanne 2006). In addition, using a political-economic theoretical framework, a firm’s environmental orientation is characterized as consisting of both internal and external environmental orientation components (Banerjee, Iyer, and Kashyap 2003). Finally, using the resource based view and in

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3 Banerjee, Iyer, and Kashyap refer to a political-economic framework that assists in guiding the organizational adoption of corporate environmentalism. By a political-economic framework, the authors suggest that both external and internal political forces (in this case, a deepening public environmental consciousness and a pro-environmental focus from top management) in conjunction with economic forces (in this case, costs savings accruing to the firm from material substitutions) results in organizational behavior changes.
conjunction with institutional theory, Bansal (2005) created a multidimensional scale for a firm’s sustainable development that contains three components (environmental integrity, economic prosperity, and social equity). Thus, mounting evidence suggests that the green market orientation construct is multidimensional, although a general consensus on what these dimensions are has yet to be reached.

In addition to a lack of consensus on the components of a firm-level green market orientation, other questions remain largely unanswered. For example, although research has found a positive linkage between a firm’s maintenance of a green market orientation and its business performance, an accurate portrayal of the extent of the relationship is not evident. In particular, since current operationalizations only consider the construct from a manager’s perspective, these operationalizations may provide a biased accounting of the extent to which a firm is actually environmentally-sensitive, and thus may artifactually inflate the strength of the environmental-orientation and firm performance linkage. In other words, measuring a firm’s green market orientation from a consumer’s perspective may provide additional insights into what it means, and whether it matters, for a firm to be considered ‘green’ by consumers, who are generally unaware of most firm’s inner workings. Since consumers ultimately drive production in a free market economy, understanding the definition and value of embarking on a green market orientation from their perspective may provide more definitive conclusions about the relationship between their appraisals of a firm’s efforts and their willingness to reward this behavior.

Despite the potential problems associated with currently established measures of a firm’s green orientation, however, prior research has explored its impact on financial performance and customer perceptions (Menon et al. 1999; Menon and Menon 1997; Porter and van der Linde 1999; Russo and Fouts 1997). In terms of the former outcome variable, research has investigated the effects of environmental ratings on return on assets (ROA), while controlling for industry concentration, firm growth rate, firm size, capital intensity, research and development intensity, advertising intensity, and market share (Russo and Fouts 1997). In short, econometric analysis suggests that “it pays [for firms] to be green” (cf. Russo and Fouts 1997, pg. 534). Additionally, case studies have shown that adopting a green market orientation affects financial performance (Porter and van der Linde 1999). For instance, a Dutch flower company was found to improve its product development and operations by eliminating wasteful practices. The improvements
resulted in increased profits (cf. Porter and van der Linde 1999). Finally, research on customer outcome variables has suggested that brand image, customer loyalty, corporate citizenship, and perceptions of the firm are influenced when a firm adopts a green market orientation (cf. Menon et al. 1999). Thus, the following research propositions regarding the relationship between the adoption of a green market orientation and the related outcomes identified in the research model are proposed:

$P_1$: Consumer perceptions of a firm’s green market orientation positively affect perceptions of the firm’s corporate altruism.

$P_2$: Consumer perceptions of a firm’s green market orientation positively affect consumer outcomes.

$P_3$: Consumer perceptions of a firm’s green market orientation positively affect satisfaction levels.

**Satisfaction**

Satisfaction measures have been widely used in the marketing literature (Oliver 1980; Oliver 1999; Oliver and Swan 1989). Based on the disconfirmation paradigm, satisfaction has been construed as an attitude or response to a consumption experience (Cronin and Taylor 1992). In particular, Oliver (1999) suggests that, from a consumer’s perspective, it represents a desired end state of consumption. This implies that satisfaction reinforces future consumption episodes and is thus highly coveted (Oliver 1999). Additionally, satisfaction has been shown to exist at different levels of abstraction, meaning that it results from a performance history over time and from reactions to one-time transactions or exchanges (e.g., the service encounter). Given this and its role in behavioral reinforcement, satisfaction has been found to precede consumer outcomes towards the firm (Cronin, Brady, and Hult 2000; Mittal, Kumar, and Tsiros 1999; Oliva, Oliver, and MacMillan 1992; Rust, Zahorik, and Keiningham 1995). For this reason, the current research postulates that:

$P_4$: Consumer satisfaction levels positively affect consumer outcomes.

*Corporate Altruism (based on Lichtenstein, Drumwright, and Braig’s [2004] Corporate Social Responsibility*
Corporate social responsibility (CSR) is defined as a consumer appraisal of a firm’s actions and how such actions impact society as a whole (Lichtenstein, Drumwright, and Braig 2004; Sen and Bhattacharya 2001; Wagner, Lutz, and Weitz 2010). Consumers tend to label firms that reduce negative effects, while increasing positive ones, as socially responsible behaviors (Maignan and Ferrell 2004). The converse is also true, as some consumers tend to label and even punish firms that are perceived of as not considering the impact of their actions or for demonstrating corporate hypocrisy (Wagner, Lutz, and Weitz 2010). In light of recent high-profile corporate accounting scandals involving WorldCom and Enron, for example, consumers have started to more closely scrutinize company actions and demand that firms be held to account (Brown and Dacin 1997). Consumer trust has been further damaged by firms’ recent misuse of funds distributed through government bailout packages (Newsweek 2008).

Since consumers form negative opinions about companies based on their perceived missteps, many firms have taken measures to improve consumer perceptions of their corporate social responsibility (Bloom, Hoeffler, Keller, and Meza 2006; Brown and Dacin 1997; García de los Salmones, Crespo, and Rodríguez del Bosque 2005; Smith and Alcorn 1991). Research suggests that such efforts lead to increased purchase intentions and customer loyalty (Maigan, Ferrell, and Hult 2001; Schuler and Cording 2006). Positive consumer outcomes, however, were shown to be contingent on the perceived authenticity of the firm’s actions (Bhattacharya and Sen 2004; Bloom, Hoeffler, Keller, and Basurto 2006). In other words, if a firm manifests its CSR by associating with a particular organization, this alliance must be perceived of as congruent with its general mission for this action to be given any credibility. For these reasons, the following research proposition is tested:

P3: Consumer perceptions of a firm’s level of corporate altruism positively affect consumer outcomes.

Consumer outcomes

Originally conceptualized as a multidimensional construct, behavioral intentions has served as both a mediating and an endogenous variable in the marketing literature (Zeithaml, Berry, and Parasuraman 1996). Keying in on the repurchase dimension, it represents one of the most important variables of interest to researchers in the service failure domain, as consumer

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4 A measure of corporate altruism based on corporate social responsibility (Lichtenstein, Drumwright, and Braig 2004) is used through out the Essay.
outcomes indicate the relative success or failure of recovery efforts (cf. Mattila 2001; Roehm and Brady 2008; Smith, Bolton, and Wagner 1999; Wirtz and Mattila 2004). Also, behavioral intentions are used as an outcome variable in research centering on the viability of strategy implementation (Noriega and Blair 2008; Mittal, Kumar, and Tisros 1999). Finally, research on green marketing strategy considers the effects of a firm portraying itself as ‘green’ on behavioral intentions (Chan 1999; Cleveland, Kalama, and Laroche 2005; Davis 1995). Thus, a modified version of behavioral intentions (e.g., “consumer outcomes”) serves as the dependent measure identified in the research model (See Figure 4.1).

Authenticity

Authenticity and authentic behavior have been explored by marketing researchers (cf. Firat and Venkatesh 1993a; Firat and Venkatesh 1993b; Kolar and Zabkar 2007; Leigh, Peters, and Shelton 2005). Authenticity’s effects on connecting firms with customers have been studied in light of the recent escalation of corporate mistrust (Maignan and Ferrell 2004). In addition, authenticity has been shown to impact customer perceptions of service encounters (Price, Arnold, and Tierney 1995), store personality (d’Astous and Levesque 2003), vacation experiences (Kolar and Zabkar 2007), antiques (Grayson and Martinec 2004), flea markets (McGrath, Sherry, and Heisley 1993) and sports car ownership (Leigh, Peters, and Shelton 2005). Finally, authenticity has been investigated by green strategy researchers (Carlson, Grove, and Kangun 1993). In particular, consumer perceptions of the authenticity of green advertisements (Carlson et al. 1993), social cause and firm affiliation (Bloom et al. 2006), and sustainable consumption patterns (Ehrenfeld 2005), influence consumer receptivity to these efforts. For this reason, the moderating effects of authenticity are tested on several paths in the identified research model (Baron and Kenny 1986) (See Figure 4.1). More specifically:

\[ P_6: \text{Consumer perceptions of a firm’s authenticity moderate the effects of its perceived green market orientation on consumer perceptions of the firm’s level of corporate altruism.} \]

\[ P_7: \text{Consumer perceptions of a firm’s authenticity moderate the effects of its perceived green market orientation on consumer outcomes.} \]

\[ P_8: \text{Consumer perceptions of a firm’s authenticity moderate the effects of its perceived green market orientation on consumer satisfaction levels.} \]
Method

The research presented was conducted using a multistage process involving both qualitative and quantitative methods. Churchill’s (1979) scale development process guided the investigation. First, consumer interviews were used to identify the traits embodied by green companies. Responses were used to develop questionnaire items (Schwab 2005). These items defined a survey that was administered to a second group of consumers. The data collected were then subjected to a purification process using exploratory factor analysis. The resulting scale items were then measured in conjunction with the following constructs to establish the newly developed green market orientation scale’s construct and nomological validity: corporate altruism, satisfaction, authenticity, and consumer outcomes (see Appendix V for scales; see Figure 4.1). Finally, the moderating effects of the perceptions of a firm’s authenticity on the relationships between perceptions of its green market orientation and corporate altruism were considered, and the resulting levels of consumer satisfaction and consumer outcomes.

The following section discusses the research, beginning with the qualitative study.

Study One: Qualitative Study

First, in order to define the range of characteristics embodied by a company with a green market orientation, responses to open-ended questions were gathered (cf. Brady and Cronin 2001; Dabholkar, Thorpe, and Rentz 1996; Kholi, Jaworski, and Kumar 1993). A group of students contacted potential respondents (ranging in age from 18-74+) and asked them to name a company considered to be environmentally-friendly or “green.” Respondent were then asked to describe why they felt this way about this particular firm (see Table 4.1 for the demographics of the sample). A total of 231 responses were gathered. These responses were then used to generate survey items.

Study Two: Item Development and Purification

During the item development phase, questionnaire items were generated using the responses gathered in the qualitative phase. In particular, responses were analyzed to identify items that load onto a green market orientation construct. Efforts were made to eliminate redundant items, avoid the development of double-barreled items, and ensure that the newly
generated items tapped into all aspects of the construct’s domain (Churchill 1979; Schwab 2005). To ensure face and content validity, the initial set of items was reviewed by two professors and four doctoral students⁵, all of whom had expertise in marketing strategy and consumer behavior. Of the 51 items that were initially generated, several were rewritten or deleted (Schwab 2005). The resulting 37 scale items were then purified using exploratory factor analysis (EFA) (See Appendix T).

In the purification phase of the scale development process, a group of students contacted potential respondents (ranging in age from 18-74+), asking them to complete an online survey containing 37 items. The sample demographics closely reflected the composition of the medium sized university town from which the sample was drawn (see Table 4.1). In addition to these 37 items hypothesized to compose the green market orientation construct, the survey contained several quality assessment items embedded within it (Dollinger and DiLalla 1996). More specifically, the statements: “If you read this, leave this line blank” and “Do not answer this question,” were strategically placed in the survey. Any surveys featuring a response to one of these questions indicated that the respondent was not paying attention and were thus eliminated from the analysis. In addition, surveys containing an incomplete section were also eliminated. It should be noted that these items, along with the balance of the survey items, were measured using a seven-point Likert response format, anchored with 1 = “Strongly disagree” and 7 = “Strongly agree.” A total of 296 completed surveys were received, with 13 discarded due to quality issues, resulting in a total of 283 usable responses.

The survey responses were then subjected to an EFA, using Varimax rotation in SAS version 9.1. Multiple criteria were used to determine the exact number of factors contained in the data (cf. Sharma 1996). Specifically, the output from the PROC FACTOR routine was analyzed using Kaiser’s Rule and an examination of an accompanying scree plot. In addition, items that featured cross-, non-significant, and with low factor loadings (λ < .45) were eliminated. The results suggested that between three and six factors were present in the data (See Table 4.2).

In the next step, each factor was closely examined using both intuition and prior findings in the literature as a guide (cf. Clark and Watson 1995). Factor 1 appeared to focus on the

⁵ Two professors and four doctoral students involved in sustainability research reviewed the initial scale items for faulty survey items. Efforts were made to identify double-barreled items (those featuring a either a compound subject or predicate) and conceptually redundant items.
greenness of a company’s offerings. Factor 2 appeared to deal with a company’s actions, suggesting that a green market oriented company tends to encourage consumption reduction and operate in a sustainable manner. Factor 3 appeared to be related to a company’s messages, which promoted the company as green. Factor 4 appeared to have some overlap with factor 3 in that it dealt with promotion. However, the linking of factors 3 and 4 may be an artifact of ordering effects in the survey, as the items from factor 4 were measured earlier in the survey. Factor 5, which contained two items, dealt with foregoing profits. Finally, factor 6 referenced recycling. Since the last three factors only contained a few items, their main ideas were unrelated to other items found in the data, and in order to keep the model as parsimonious as possible, while ensuring that the entire domain of the green market orientation was accounted for, factors 4, 5, and 6 were removed. The results from this analysis suggested that these items comprised three distinct dimensions. The EFA was followed by a confirmatory factor analysis, with the final results from this process reducing the original 37 to only 13 items (See Tables 4.2 and 4.3).

Study Three: Construct Validity Assessment

In the final study in this multistage process, the newly devised measure of a firm’s green market orientation was assessed for its construct validity. This process involved testing the operationalization’s convergent and discriminant validity, as well as its nomological validity. The following discussion highlights the results of these assessments, beginning with a brief overview of the sampling process used in this study.

A sampling procedure similar to that employed during the first two studies was used to gather responses. Respondents were asked to complete an online survey containing the 13 item green market orientation measure. The sample’s demographics closely matched the composition of the medium-sized university town from which the sample was drawn (see Table 4.1). In particular, 363 usable surveys were generated. Forty-two percent of the respondents were men, 85 percent were Caucasian, five percent were African American, seven percent were Latino, less than one percent were Asian, less than one percent were Native American, and less than one percent reported themselves as “Other.” Forty-two percent were 18-24 years old, 2.5 percent were 25-31, five percent were 32-38, 8.3 percent were 39 to 45, twenty-three percent were 46 to
52, ten percent were 53 to 59, four percent were 60 to 66, 2.5 percent were 67 to 73, and 1.3 percent were 74 years of age and over (See Table 4.1).

Also, as was done in the previous study, several quality assessment items were interspersed throughout the instrument in order to detect the occurrence of yea-saying and other potentially problematic responses (Dollinger and DiLalla 1996; Podsakoff, MacKenzie, Lee, and Podsakoff 2003). In particular, the statements: “Do not answer this question” and “If you read this, leave this line blank” were included. Each of these were measured using a seven-point Likert response format, anchored with 1 = Strongly disagree and 7 = Strongly agree. Surveys featuring inappropriate responses to these items were eliminated from the analysis, as were surveys in which participants failed to complete any given section. A total of 389 completed surveys were received, with 26 discarded due to quality issues, resulting in a total of 363 usable responses.

It should be noted that since a newly developed construct’s utility hinges on its ability to appropriately react to a set of related constructs, its nomological validity must be assessed (cf. Anderson and Gerbing 1988). Thus, the green market orientation construct’s nomological validity was tested by casting it in a structural equation model containing several managerially relevant variables. In particular, the construct was modeled alongside perceptions of satisfaction, perceptions of the firm’s corporate altruism, firm-level authenticity, and consumer outcomes. By testing green market orientation’s relationship with these other constructs, this study sought to determine if the construct altered established relationships found in the literature. Additionally, this study provided a window into how a firm-level green market orientation influences the constructs in its nomological network, thus, providing managers with information regarding the potency of adopting this firm-level strategy (See Figure 4.1).

With the exception of the newly developed green market orientation scale and an untested, unvalidated measure of firm-level authenticity, all of the scales in the questionnaire had been used in previous research. It should be noted that each had proven to be a valid and reliable measure of its respective construct. To measure the newly developed green market orientation construct, 13 items were included in the survey instrument (See Appendix U). As alluded to above, this scale differs from previously reported measures, as it keys in on consumer perceptions of a firm’s enactment of this strategy versus those of managers (Bansal 2005;
Given that consumers drive most purchasing behavior in the marketplace, a green market orientation construct from a consumer perspective adds to the growing body of knowledge on the viability of adopting a sustainable business strategy. Satisfaction was measured using a three-item scale (Oliver 1980). To measure consumer perceptions of a firm’s corporate altruism, a five-item scale was used (Lichtenstein, Drumwright, and Braig 2004). Finally, a measure of consumer outcomes based on behavior intentions to repurchase was used (Zeithaml, Berry, and Parasuraman 1996). As a final point, authenticity was measured with a five-item scale. Appendix V lists the scale items used in this study.

It should be mentioned that a variety of preventative measures were incorporated into the survey development process to minimize the risk of common methods bias (cf. Lindell and Whitney 2001; Podsakoff, MacKenzie, Lee, and Podsakoff 2003). From a procedural standpoint, participants were assured of anonymity and published scales were used, except for the newly developed measure (Podsakoff and Organ 1986). In addition, the Harman one-factor test was conducted to diagnose the occurrence of common method biasing effects prior to estimating the parameters for the measurement model (Harman 1976; Podsakoff and Organ 1986). To conduct this test, an exploratory factor analysis (EFA) using an un-rotated factor solution with SPSS 11.5 was estimated for all of the scale items identified in the research model. The results yielded a five factor solution with each construct containing an eigenvalue greater than 1.0, while accounting for a total of 70.34 percent of the variance. This suggested that a single factor did not explain the majority of the variance in the data. Additionally, since a five factor solution was found, and since the main emergent factor did not account for a majority of the variance explained (39.43 percent), common methods issues did not appear to have substantially biased this study’s findings.

Results

The psychometric properties of the five constructs included in the nomological validity study were evaluated by conducting a Confirmatory Factor Analysis (CFA). A model was estimated in which each item loaded only on its designated construct and in which cross-loadings
were not permitted (Anderson and Gerbing 1988). The results suggested that the measurement model fit the data adequately ($N = 363, \chi^2 = 994.77, df = 413, CFI = .99, TLI = .98, and RMSEA = .062$). It should also be noted that all of the measures proved to be highly reliable, with composite reliability estimates ranging from .87 to .96. Additionally, the results offered strong support for both convergent and discriminant validity. With regards to the former, all factor loadings onto each latent variable exceeded .50 and featured statistically significant $t$-values (Anderson and Gerbing 1988; Fornell and Larcker 1981). Discriminant validity was assessed using the two most common approaches found in the literature. First, the average variances extracted were compared with the shared variances between each construct (Fornell and Larker 1981) (See Tables 4.4 and 4.5). Each construct pairing proved to be distinct, except in the case of communications and perceptions of authenticity. However, a second approach using a series of sequential chi-square difference tests, which allowed the correlations between each construct pairing to be freely estimated and then set to unity, was conducted (Anderson and Gerbing 1988). The results provided strong support for discriminant validity, as the chi-square values for the unconstrained model was significantly lower than those found in the constrained model (Anderson and Gerbing 1988).

After testing the measurement properties of the constructs in this study, parameters were estimated for the structural equation model. The results provided support for the research model, as they indicated that the data fit the model adequately ($N = 363, \chi^2 = 858.31, df = 293, CFI = .98, TLI = .98, and RMSEA = .073$). Furthermore, all of the gamma and beta ($\gamma$ and $\beta$) parameters were significant, except for the path from perceptions of corporate altruism to consumer outcomes, providing support for all of the research propositions, except for $P_5$ (See Figure 4.1). In particular, the results suggested that consumer perceptions of a firm’s green market orientation influences consumer perceptions of its level of corporate altruism ($\gamma = 0.50, p < 0.005$), providing support for $P_1$. Perceptions of the firm’s green market orientation also was found to positively influence consumers’ outcomes towards the firm ($\beta = 0.22, p < 0.005$), supporting $P_2$. In addition, the findings provide support for $P_3$, as they indicated that a firm’s green market orientation influences satisfaction ($\beta = 0.34, p < 0.005$). Satisfaction was also suggested to impact consumer outcomes ($\beta = 0.64, p < 0.005$), buttressing $P_4$. Finally, support was not found for $P_5$, as consumers’ perceptions of the firm’s level of corporate altruism was not found to influence their consumer outcomes towards the firm ($\beta = 0.04, p = 0.412$).
The results of the structural equation model analysis showed that the model explained a sizable amount of variance in both proximal and distal outcomes. More specifically, 25 percent of the variance in perceptions of corporate altruism was explained by the firm’s green market orientation. Moreover, 11 percent of the variance in the level of customer satisfaction was explained by whether or not a firm was perceived of as maintaining a green market orientation. Finally, 56 percent of the variance in consumer outcomes was explained by the customer’s perceptions of a firm’s green market orientation, its corporate altruism, and their satisfaction levels (See Figure 4.1).

*Moderation Test*

To test the moderating effects of authenticity on the relationships between green market orientation and satisfaction, corporate altruism, and consumer outcomes, the procedures outlined in Baron and Kenny (1986) were used. In particular, a multi-group structural equation modeling (SEM) analysis was conducted. The sample data were divided into two groups using a median split procedure based on low and high perceived authenticity values. Next, two models were created using AMOS 4.0, with one serving as a baseline and the other as a comparison model. It should be noted that all of the beta and gamma (β and γ) parameters in the baseline model were constrained to equality for both low and high authenticity values, while similar constraints were imposed on the comparison model, with the exception of the beta paths between the two variables being tested (e.g., between green market orientation and satisfaction). Both models were then estimated. Finally, the results were used to calculate a chi-square difference test which allowed an assessment of the moderating effects of authenticity.

The results of these tests provide mixed support for the proposed moderating effects of perceived authenticity. Specifically, the moderating effects of authenticity on the relationship between green market orientation and satisfaction was supported ($\Delta \chi^2 = 9.9$, $\Delta df = 1$, $p < .001$), providing support for P8. However, the moderating effects of authenticity on the relationships between green market orientation and perceptions of the firm’s corporate altruism and between green market orientation and consumer outcomes were not supported ($\Delta \chi^2 = 2.3$, $\Delta df = 1$, $p = .13$ and $\Delta \chi^2 = 0.6$, $\Delta df = 1$, $p = .44$). Since the chi-square differences were nonsignificant, the results do not offer support for P6 and P7, which posit that perceptions of a firm’s authenticity moderate these relationships (See Table 4.6).
Discussion and Implications

The research presented seeks to appraise the viability of adopting a firm-level green market orientation. It does so by first operationalizing green market orientation as a psychometric construct, using the Churchill (1979) scale development process. Next, the newly devised scale is tested for both construct and nomological validity. Finally, the research examines the potentially moderating effects of perceptions of the firm’s authenticity on the linkages found in the research model (See Figure 4.1). The following discussion highlights the findings and implications of these efforts.

A qualitative study involving 231 consumers defined the universe of characteristics embodied by a firm choosing to adopt a green market orientation. Consumers first identified firms considered to be ‘green’ or environmentally-sensitive. The top twenty most frequently mentioned green market oriented companies spanned four industries (retail trade, manufacturing, utilities, and administrative and support and waste management and remediation services) and were found to populate the regional, national, and international marketplace (See Table 4.7). The results suggest that consumers assess the relative ‘greenness’ of firms across a wide-range of industries, implying that no industry is shielded from consumer pressure for environmental accountability. The same logic also applies to firms at all levels of marketplace penetration. In other words, no matter the scope of a firm’s presence, or even its size, it cannot escape the scrutiny of its sustainability efforts. The results imply that firms may have to adopt a green market orientation as a defensive strategy in a crowded marketplace, where not doing so may damage the firm’s credibility.

When asked why a particular company was characterized as environmentally-friendly, respondents suggested that the alignment of its actions, offerings, and communications indicated that the firm espoused this strategy. Consumers described firms’ actions aimed at minimizing harmful negative externalities from production processes. For instance, one respondent suggested that a national bottled water firm had recently made strides to reduce the amount of petroleum used in its packaging. Consumers also alluded to the characteristics of a given firm’s offerings as sending a signal that it maintains a green market orientation. For example, a respondent commented on a particular product, the Honda Civic GX, which is marketed as an environmentally-friendly alternative form of transportation. Finally, respondents suggested that
green market oriented firms communicated sustainability efforts in integrated marketing communications campaigns. For instance, commenting on a firm’s efforts to announce environmental-sensitivity, a respondent stated that the effort “sent out pamphlets in [its] bills letting their customers know how to be green and save energy.” The findings support the notion that consumer perceptions of a firm’s green market orientation hinge on its capacity to execute based on each of these dimensions. The dimensions found in the qualitative study were borne out in an EFA of questionnaire items (see Appendices T and U for a listing of the original and final scale items).

It should be noted that the current conceptualization was developed in accordance with prior research findings. Specifically, the current operationalization found that the construct was multidimensional, in agreement with prior research efforts containing cognate constructs which also recognize it as a complex construct (cf. Baker and Sinkula 2005; Stone and Wakefield 2000). In addition, an analytical technique (Target (T) coefficient) was conducted to confirm that such an operationalization was appropriate (cf. Marsh and Hocevar 1985; Segars, Grover, and Teng 1998).

In terms of the newly devised construct’s nomological validity assessment, the results suggested that when a firm adopts a green market orientation, as indicated by an alignment of its offerings, actions, and communications, these efforts positively impact consumer perceptions of the firm’s corporate altruism, coupled with satisfaction levels, and consumer outcomes. These results suggest that firms adopting such an orientation are potentially rewarded by efforts and, therefore, justified in making the necessary investment. The results also indicate that although adopting a firm-level green market orientation has sizable effects on all three of the outcome measures, its most profound impact is on perceptions of a firm’s corporate altruism (See Figure 4.1). The results imply that consumers recognize an organization’s ‘greening’ efforts as an attempt to give back to its community and to selflessly allocate its resources for the betterment of society. That is, to operate with social concern in mind. Thus, if a firm desires to be positioned as socially responsible, the adoption of a green market orientation is a worthwhile investment. Moreover, perceptions of a firm’s green market orientation had the second highest impact on satisfaction. Since satisfaction is considered an affective variable, the results suggest that green market orientation elicits an emotional response from the consumer. Thus, firms seeking to develop an emotional bond with customers should leverage this strategy. Finally, the results
suggest that the adoption of a green market orientation explains 56 percent of the variance in consumers’ tendencies to classify themselves as loyal customers, who oftentimes advocate the firm to their acquaintances. In addition, the results indicate that consumers would be willing to continue relationships with the firm even in event of a price increase. Given the substantial impact on consumer outcomes, firms should consider adopting a green market orientation to maintain existing, as well as to develop new, relationships.

Finally, given the prevailing air of consumer cynicism towards ‘green-washing’ firms, those which disingenuously portray themselves as having adopted sustainable business practices, the research presented tested the potentially moderating effects of the firm’s authenticity on the linkages found in the model (Banerjee et al. 2003; Carlson et al. 1993). The results suggest that authenticity moderates the relationship between perceptions that a firm has adopted a green market orientation and satisfaction levels (See Table 4.6). In other words, when consumers perceive that firms exhibit high levels of authenticity, the firm’s green market orientation positively affects satisfaction. However, in cases in which consumers are not convinced that the firm’s efforts are authentic, this relationship is diminished (See Table 4.6). This result may be viewed as encouraging for firms that genuinely attempt to operate in an environmentally-friendly way, while also providing fair warning for firms that are willing to risk the potential negative consequences of green-washing.

Conclusions, Managerial and Theoretical Implications, Limitations, and Research Extensions

Given the potentially sizable investments required to develop a firm-level green market orientation, doing so may represent a risky strategy. In fact, despite growing consumer environmental-sensitivity (Bonini and Oppenheim 2008; Jones 2008), the lack of strong and universal consumer commitment to green offerings raises the question of whether or not adopting a green market orientation is a worthwhile investment. Furthermore, research on the efficacy of implementing such practices has shown conflicting findings. In this regard, some research suggests that the adoption of a green market orientation results in positive outcomes for the firm, while other research questions the value of such behaviors (Derwall, Guenster, Bauer, and Koedijk 2005; King and Lenox 2001; Miles, Munilla, and Russell 1997; Russo and Fouts
1997). Thus, insights into the adoption of a green market orientation are beneficial to both managers and academicians.

Managerial Implications

The research presented contributes to practice by assessing the efficacy of the adoption a firm-level green marketing orientation. By conducting a series of studies from the consumer’s perspective, it builds on prior research and concludes that the adoption of a firm-level green market orientation represents a viable strategy. Specifically, the research suggests that doing so positively affects consumer perceptions of the firm. That is, the findings suggest that a green market orientation positively impacts consumers’ satisfaction, their perceptions of a firm’s corporate altruism, and a battery of consumer outcomes. However, the relative magnitude of the estimated beta coefficients suggests that the enactment of such practices has the greatest impact on perceptions of firm’s corporate altruism. Thus, firms seeking to be perceived of as caring about the greater good of society should consider developing a green market orientation. The results also indicate that firms should take care when adopting such a stance, as consumers’ satisfaction levels can be negatively impacted when they perceive that a firm is acting inauthentically. As such, the results provide insights into the value that consumers place on this type of organizational positioning, allowing managers to more conclusively weigh the pros and cons of committing their companies to an oftentimes expensive and risky proposition.

Theoretical Implications

The research presented does not test a specific theory per se, but instead it contributes by addressing the theoretical debate regarding whether a firm should adopt a green market orientation (cf. Balderjahn 1988; Cleveland, Kalamas, and Laroche 2005; Kalafatis et al. 1999; Laroche, Bergeron, and Barbaro-Forleo 2001; Ottman 1992). Specifically, the results contribute to current understanding by testing the influence of this newly operationalized construct on perceptions of the firm and consumer reactions. In the process, the essay contributes to theory by identifying a firm-level green market orientation. The results suggest that green market orientation is multi-dimensional, measuring three distinct firm-level characteristics (e.g., a firm’s actions, communications, and offerings). The results also contribute to theory as they imply that
although a firm’s green market orientation can impact consumer satisfaction and outcomes and perceptions of a firm’s corporate altruism, some of these relationships may be affected by other constructs. In particular, moderators such as authenticity may reduce the impact of a firm’s greening efforts. The research presented, also lays the foundation for future explorations into additional factors which may increase the amount of variance explained in consumers’ outcomes. Furthermore, it calls for future research efforts which meld psychometric assessments and actual consumption data, as sustainability research suggests that consumers oftentimes say one thing and do another (Downs and Freiden 1983; Kalafatis, Pollard, East, and Tsogas 1999; McDougall, Claxton, Richie, and Anderson 1981).

Limitations

The research presented has several limitations that should be addressed. First, the research model contains two constructs that may limit the conclusions drawn. In particular, the model contains an untested and unvalidated measure for firm-level authenticity and a measure of corporate social responsibility that may not capture the entire domain of the construct. It should be noted, however, that although the measure for firm-level authenticity has not been tested in a rigorous validation process, it demonstrated acceptable psychometric properties. In addition, since prior research findings have made mention of consumer skepticism towards firms and their claims of environmental sensitivity, the use of this variable in the model may provide useful information for managers (cf. Bloom et al. 2006; Carlson et al. 1993; Ehrenfeld 2005; Osterhus 1997).

On another note, although the sequencing of constructs identified in the research model is supported by prior research findings, several plausible alternative models could be tested based on conflicting research findings. More specifically, some research has shown that green marketing is contained in a broader CSR construct, while other research has shown the opposite (Clemens 2006; Du, Bhattacharya, and Sen 2007; Menguc and Ozanne 2006). Third, the model may contain some measurement issues. Specifically, although each construct pairing in the model was found to be distinct using Anderson and Gerbing’s (1988) test for discriminant validity, the authenticity and communications pairing failed Fornell and Larcker’s (1981) more stringent test (De Wulf, Odekerken-Schroder, and Iacobucci 2001; Osterhus 1997). In a related issue, the shared variance between the model’s measures of satisfaction and consumer outcomes
were equal to the average variance extracted (.70). This may suggest that the constructs are not unique. In addition, the model contained item level reliability issues. In this case, several individual items contained reliabilities <.70, representing a significant challenge for a newly developed scale. Finally, while measures were taken to guard against common methods bias and although a test was conducted to check for the presence of biasing effects, the test used to do so is arguably weaker than other techniques (Podsakoff, MacKenzie, Lee, and Podsakoff 2003). Finally, it should be noted that students assisted the data collection efforts.

Research Extensions

The research presented offers multiple avenues for future explorations. First, future research should be conducted to explore the limitations found in the research presented. In particular, research should use a more current and, perhaps, more relevant measure of CSR. Additionally, a competing models study should be conducted wherein a series of plausible alternative models are tested (cf. Cronin, Brady, and Hult 2002). Research could also measure marker variables, along with the constructs of interest, to more rigorously test for methods biasing effects and in order to partial out any resulting effects (cf. Lindell and Whitney 2001; Podsakoff, MacKenzie, Lee, and Podsakoff 2003).

Beyond research based on the limitations noted above, research could also examine the relationships between adopting a firm-level green market orientation and other relevant outcome measures found in the literature. In particular, the effects of the scale could be tested on share of wallet, net promoter scores, and the complete behavioral intentions to repurchase scale (cf. Keiningham, Cooil, Andreassen, and Akosy 2007; Shugan and Mitra 2009; Zeithaml, Berry, and Parasuraman 1996). In addition, since the research model found that the green market orientation construct has a significant relationship on satisfaction, which is an affective variable, future research may want to examine it effects on cognitively oriented variables, such as service quality (cf. Cronin and Taylor 1992). Such research extensions would provide a more accurate portrayal of the effects of a firm-level green market orientation on consumer attitudes. Future research should also investigate the impact of a firm-level green market orientation on actual consumption behaviors, as prior research suggests that consumers claim to be willing to purchase green offerings, but chose not to do so (Geller 1981). In this regard, scanner data might allow for a more objective assessment of the effects of a retailer’s green market orientation. In
addition, future research should explore other factors which may moderate a firm’s green market orientation on both consumer attitudes and consumption measures. In this vein, individual difference factors such as a consumer’s environmental awareness or commitment could be investigated. Finally, the moderating effects of political affiliations, voter registrations, and environmental group memberships could also be evaluated.
Chapter 5

ESSAY 3

The Effects of an Integrated Marketing Communications Campaign Highlighting a Firm’s Environmental Consciousness

Abstract

In three studies, this research explores the power that a green integrated marketing communications (IMC) campaign wields over consumer attitudes and consumption. To examine how a green IMC affects attitudes, consumers are subjected to an experimental manipulation. The findings suggest that a green IMC implementation results in higher perceptions of the firm’s authenticity, organizational effectiveness, market orientation, service quality, and trustworthiness. Next, a quasi-experimental repeated-measures mixed-subjects ANOVA design tests the effects of a green IMC on consumption behaviors. The findings suggest that a consumer’s propensity to recycle, results in changes in consumption. Finally, using structural equation modeling, individual and organizational difference variables were found to impact consumer outcomes towards the firm. Taken collectively, these results suggest that, under certain conditions, firms choosing to announce their sustainability efforts may be rewarded for doing so. Finally, the research presented introduces two untested, unvalidated constructs (perceived organizational effectiveness and authenticity).

Introduction

In response to the recent wave of consumer environmentalism, many high-profile firms, including Shell, BP, and Wal-mart, are adopting a sustainable business strategy (Bonini and Oppenheim 2008; Brown 2005; Rushe 2009; Stuever 2005). By reducing waste, streamlining operations, and developing ‘greener’ product offerings, newly transformed, environmentally-sensitive firms are endeavoring to protect the planet, as well as to satisfy pent-up consumer demand (King and Lenox 2001; Porter and van der Linde 1999; Rushe 2009). Although the simultaneous achievement of these objectives bodes well for firms’ longevity, many firms have recognized the substantial financial bounty that implementing sustainable business practices represents, as green offerings command a price premium in the marketplace, in addition to being
highly profitable (Bhattacharya and Sen 2004; Esty and Winston 2006; Orsato 2006; Trudel and Cotte 2009).

In order to capitalize on escalating consumer demand and a stated willingness to pay more for environmentally-conscious or ‘green’ goods and services, many of the firms adopting a green orientation have unabashedly publicized such efforts (Bloom, Hoeffler, Keller, and Basurto 2006; Carlson, Grove, Lacznai, and Kangun 1996; Mathur and Mathur 2000). Through the use of integrated marketing communications (IMC) campaigns, unified marketing efforts designed to cast the firm in a particular light, firms have spent millions of dollars announcing the measures that they have taken to protect the planet (Biehal and Sheinin 2007; Petrecca and Howard 2007). For example, GE spent nearly 100 percent of its total marketing budget on its Ecomagination TV, print and Web campaign in 2007 (Petrecca and Howard 2007). Given the widespread ‘greening’ of corporate America and the resulting ubiquity of green announcements, however, many consumers have grown wary of organizational claims of environmental-sensitivity (Mohr, Eroglu, and Ellen 1998; Prendergrast and Thompson 1997). Mounting skepticism, fueled by instances of greenwashing (disingenuous portrayals by less ethical firms seeking to exploit environmentally-sensitive consumers) have proven to be costly to violators’ credibility (Banerjee, Iyer, and Kashyap 2003). Nevertheless, firms implementing a green IMC have been largely successful at shaping consumers’ attitudes and behaviors (Biehal and Sheinin 2007; Grinstein and Nisan 2009; Smith, Gopalakrishna, and Chatterjee 2006).

Research that focuses specifically on the effects of these campaigns in the green goods and services adoption process, however, is limited (cf. Grinstein and Nisan 2009; Menon and Menon 1997; Osterhus 1997). Given the significant financial outlays required to develop a green IMC, coupled with the risks that such efforts may be misconstrued by an increasingly cynical customer base (Mohr, Eroglu, and Ellen 1998; Prendergrast and Thompson 1997), insights into effectiveness has relevance to both marketing theory and practice. Thus, the objective of the research presented is to appraise the potency of a firm’s green IMC on attitudinal and behavioral changes.

This assessment of the efficacy of a green IMC implementation was accomplished through a multistage process. First, an experiment based on salience theory was conducted to test the power of a component of a green IMC on changes in consumer attitudes (Alba, Hutchinson, and Lynch 1991; Schuhwerk and Lefkoff-Hagius 1995). A quasi-experiment
designed to assess the effects of the implementation of a green IMC on actual consumption patterns, in which salience theory is also proposed as the mechanism underlying such behaviors follows. Finally, a structural equation model is developed and tested to uncover the psychographic variables that elicited behavioral change. Five managerially relevant individual and organizational difference variables are cast in a nomological network to examine their effects on purchase intentions.

A brief discussion on IMCs in general and the effects of green IMCs on consumer outcome variables follows. Based on the review, hypotheses are developed to test the effects of an IMC on such factors, as well as to test the effects of several managerially relevant variables on consumer outcomes. A more complete description of the methods and constructs employed in the research are then presented. Lastly, findings and implications are discussed.

Conceptual Background

The development and implementation of an IMC involves the alignment of an organization’s oftentimes fragmented and contradictory marketing efforts (Biehal and Sheinin 2007; Carlson, Grove, Laczniak, and Kangun 1996). Given that firms use multiple vehicles (such as trade shows, advertising, and public relations efforts) to convey messages about the firm, the risk of sending mixed messages to consumers represents a significant challenge (Smith, Gopalakrishna, and Chatterjee 2006). With an organizationally developed IMC, however, such a risk is reduced, as consumers receive a single, unified message about the firm, its offerings, and its mission (Schultz, Tannenbaum, and Lauterborn 1993). From the firm’s perspective, an integrated message can help to increase the efficiency and effectiveness of the firm’s overall marketing expenditures (Gatignon and Hanssens 1987; Gopalakrishna and Lilien 1995). In addition, the firm also benefits from the implementation of an IMC, as a clearly articulated message encourages the firm to become more focused and thus to develop core competencies that are difficult to replicate (Barney 1991; Smith, Gopalakrishna, and Chatterjee 2006). Research suggests that many firms have recognized the wisdom of choosing to integrate marketing communications, as 89 percent of the 300 largest US based firms (such as IMB, Microsoft, and FedEx) have adopted such practices (Kitchen, Kim, and Schultz 2008).
Many firms adopting sustainable business practices have chosen to make consumers aware of these efforts through their development and implementation of a green IMC, the harmonization of the firm’s marketing messages with the purpose of portraying the firm as environmentally-friendly (Polonsky and Rosenberger 2001). Although there is a relative dearth of research that centers specifically on green IMCs, the green marketing literature exposes the challenges faced by marketers developing IMCs. In particular, the deployment of an IMC is potentially problematic in that such efforts involve an attempt to simultaneously satisfy multiple stakeholders (e.g., governmental agencies, employees, the media, customers, interest groups, etc.) (Clulow 2005). Research, however, suggests that firms may benefit from the development of a green IMC, as the alignment of internal and external marketing efforts can positively affect both internal and external stakeholders, invoke reduced consumption, and spur green product adoption (Grinstein and Nisan 2009; Simmons 2009). Given the widespread development of such IMCs by organizations desiring to solidify corporate identities, as well as the proliferation of such campaigns in the marketplace, additional research on the topic is needed (Carlson, Grove, Laczniak, and Kangun 1996). The following discussion considers how some of the elements of a green IMC can impact consumer attitudes and behaviors (Anderson and Claxton 1982; Miles, Munilla, and Russell 1997). Specifically, how pro-environmental advertising, labeling, and strategic alliances impact consumer perceptions of the firm and thus subsequent behaviors is considered (cf. Grankvist, Dahlstrand, and Biel 2007; Milne, Iyer, and Williams 1996; Polonsky and Rosenberger 2001).

A firm’s advertising efforts are one of the most frequently studied components of green IMCs, as many firms have chosen to broadcast their sustainable business practices (Carlson, Grove, Laczniak, and Kangun 1996). In fact, research suggests that green advertising is not only ubiquitous, but also has longevity, as firms have been conducting green advertising campaigns since the mid-1980s (Kangun, Carlson, and Grove 1991). Consumers have been shown to react positively towards green advertisements that are construed as authentic (Bloom, Hoeffler, Keller, and Basurto 2006; Carlson, Grove, and Kangun 1993). Research also indicates that green or environmentally-sensitive consumers show strong purchase intentions towards firms featuring green ad campaigns, claiming to be willing to make special efforts to purchase promoted green offerings and, given the option, to switch to greener alternatives (Davis 1995; Shrum, McCarty, and Lowery 1995). However, research also suggests that consumer enthusiasm towards self-
proclaimed “green firms” is tempered by perceptions of the effectiveness of purchasing such firms’ offerings, as consumers question the ability of firms’ products to truly protect the environment (Ellen, Weiner, and Cobb-Walgren 1991; Obermiller 1995; Osterhus 1997). Research also suggests that the salience of environmental protectionism is wide-ranging across consumers (Schuhwerk and Lefkoff-Hagius 1995). Furthermore, findings suggest that consumers can identify ads that represent nothing more than greenwashing, and that they tend to punish offending firms for engaging in such fraudulent behaviors (Carlson, Grove, Laczniak, and Kangun 1996). In short, the advertising component of a green IMC has been shown to have a powerful, and yet qualified effect, on consumer attitudes and behaviors (Chan 1999; Roberts 1996; Zinkhan and Carlson 1995).

In addition to creating advertisements which tout a firm’s level of environmental-sensitivity, firms have also chosen to label their products as environmentally-friendly as part of their efforts at implementing a green IMC (Anderson and Claxton 1982). Although governmental and non-governmental agencies alike regulate these activities, and even in some instances have forced product labeling efforts, many firms that market green offerings welcome their use, as labels have been shown to be an effective promotional device (Anderson and Claxton 1982; D’Souza, Taghian, Lamb, and Peretiatko 2007; Grankvist, Dahlstrand, and Biel 2007; Hemmelskamp and Brockman 1997; Miles, Munilla, and Russell 1997). Consider, for instance, a sample of Australian consumers indicated that labels increased product credibility and customer satisfaction, as consumers perceived that the labeled products were, indeed, environmentally-friendly. By signaling that such products were authentically “green,” labeling reduced complexity in consumer search efforts and satisfaction levels as a consequence (D’Souza, Taghian, Lamb, and Peretiatko 2007). Labeling was also found to affect purchasing behaviors in certified organic meat sales, as the logic found in the previous example applies (Harris 2007; Verhoef 2005). Finally, labels were suggested to positively impact the firm by reducing the risk of future environmental legislation. Labels signaled to law makers that self-governing firms had voluntarily adopted measures to safeguard the environment and were thus to be held in high regard (Pedersen and Neergaard 2006). In sum, green labeling results in positive outcomes for the firm.

In order to promote environmental-sensitivity, some firms have developed strategic alliances with environmental-watchdog groups (Milne, Iyer, and Williams 1996; Polonsky 2001;
Alliances between organizations such as Shell and the World Wildlife Fund have resulted in the development of new products that are purported to have a lower impact on the natural environment, consequently improving stakeholder relations and increasing purchase intentions (Yaziji 2004). Research also suggests that strategic alliances with environmental groups, referred to as strategic bridging, may open new segments of the marketplace to the firm, providing opportunities for additional revenue expansion (Polonsky 2001). Since strategic alliances have been found to activate consumer trust, increase satisfaction, and result in positive consumer outcomes towards the firm, relationships such as the one between the Environmental Defense Fund and the McDonald’s fast-food chain may become more commonplace, as firms scramble to legitimize their environmental efforts (Stafford and Hartman 1996; Stafford, Polonsky, and Hartman 2000). For these reasons, strategic green-alliances may position the firm well in the mind of the consumer.

Thus, a brief review on IMCs and their components suggests that green IMCs can and do affect consumer outcomes. First, the review suggests that firms which implement a green IMC are perceived of in a more positive light by consumers. Second, it indicates that green IMC implementation affect consumer behaviors. For this reason, the following hypotheses have been developed. Or, more formally, the research presented hypothesizes that:

H₁: A firm which promotes itself as environmentally-conscious positively affect perceptions of a firm’s authenticity.

H₂: A firm which promotes itself as environmentally-conscious positively affect perceptions of a firm’s service quality.

H₃: A firm which promotes itself as environmentally-conscious positively affect perceptions of a firm’s market orientation.

H₄: A firm which promotes itself as environmentally-conscious positively affect perceptions of a firm’s trustworthiness.

H₅: A firm which promotes itself as environmentally-conscious will positively affect perceptions of a firm’s organizational effectiveness at redressing environmental issues.
H₆: A firm which promotes itself as environmentally-conscious will positively affect consumers’ behaviors, which will change in accordance with the message.

In addition to the hypotheses, research propositions are developed based on findings in the literature suggest both individual differences and organizational factors influence consumer outcomes (Ellen, Weiner, and Cobb-Walgreen 1991; Obermiller 1995; Osterhus 1997). More specifically, since prior research has suggested that consumers are willing to pay more for green products from self-purportedly and yet highly credible green firm, this study proposes an exploratory research model featuring two newly developed constructs to examine how such factors influence consumer outcomes (Zeithaml, Berry and Parasuraman 1996). Specifically, proposition one tests the notion that a firm’s perceived organizational effectiveness (a newly devised scale, representing a firm’s ability to reduce the impact on the environment) positively affects perceptions of a firm’s authenticity (an unpublished scale, representing a firm’s honesty) (cf. Bloom, Hoeffler, Keller, and Basurto 2006; Ehrenfeld 2005).

Proposition two tests the idea that a firm’s perceived level of organizational effectiveness positively affects consumer trust (Berger and Corbin 1992; Morgan and Hunt 1994). Proposition three tests whether a consumer’s perceptions of a firm’s level of authenticity positively affects a battery of consumer outcomes (Bloom, Hoeffler, Keller, and Basurto 2006; Ehrenfeld 2005). Proposition four considers a consumer’s level of trust in a firm positively affects a battery of consumer outcomes (Bloom, Hoeffler, Keller, and Basurto 2006; Ehrenfeld 2005). Proposition five suggests that the notion that a consumer’s level of environmental knowledge positively affects their level of environmental concern (Diamantopoulosa, Schlegelmilch, Sinkovics, and Bohlen 2003; Roberts and Bacon 1997). Proposition six tests indicates that a consumer’s level of environmental concern positively affects consumer outcomes (Roberts and Bacon 1997). Proposition seven tests the notion that a consumer’s level of environmental knowledge positively impacts consumer outcomes (Roberts and Bacon 1997).

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6 It should be noted that the results cited in the literature review on IMC components found to affect consumer outcomes were oftentimes contingent on the salience of environmental issues to the consumer (Alba, Hutchinson, and Lynch 1991; Schuhwerk and Lefkoff-Hagius 1995). In other words, a green IMC’s impact on consumer attitudes and behaviors is perhaps best explained by salience theory, which suggests that the relative importance that consumers ascribe to environmental issues determines their reaction to this particular type of stimulus (Schuhwerk and Lefkoff-Hagius 1995). Thus, although study two is an exploratory study that was devised to garner initial insights into the effects of an IMC on behaviors, salience theory may be the mechanism that explains any behavioral change. More specifically, the salience of the firm’s IMC (in this case, an electric company’s green announcement) to the consumer should cause reduced consumption.
Finally, the research presented tests the hypotheses and propositions in the context of a demarketing program, an organizational effort designed to reduce a particular consumer behavior (cf. Gristein and Nisan 2009). Thus, as elaborated on below, support for the sixth research hypothesis is manifested by a reduction in electricity consumption. The following section discusses the approach used to test the hypotheses and propositions.

Method

As stated above, the research presented examines whether a firm’s green IMC affects both consumer attitudes and consumption patterns in a demarketing context (cf. Gristein and Nisan 2009). Using a multistage process, an experiment first tests the effects of one component of a green IMC on consumer attitudes. Second, a quasi-experimental design examines the effects of a green IMC (and two related factors) on actual consumption. In the study, a longitudinal measure of consumers’ actual electricity usage served as the dependent variable. Using a two-way, repeated-measures analysis of variance (ANOVA), consumption differences over time by the consumers’ recollection of the IMC were assessed (Bergh 1995; Field and Hole 2003). In a final stage, structural equation modeling examines the factors that influence consumption outcomes (Zeithaml, Berry, and Parasuraman 1996). The following section describes each study in detail.

Study One

The first study assesses the effects of a green IMC implementation on consumer attitudes. More specifically, hypotheses (H₁ - H₅) suggest that a green IMC positively affects consumers’ perceptions of a firm’s authenticity, service quality, market orientation, trustworthiness, and organizational effectiveness at redressing environmental issues. The effort was accomplished by conducting an experiment using a simulated monthly electricity bill. The following sections discuss the participants, procedures, and results.

Participants
Sixty-four undergraduate students in a marketing course at a large public university were randomly assigned to one of two experimental conditions. Participation involved the completion of a brief survey. Twelve respondents were eliminated from consideration due to inappropriate responses to embedded quality assurance items, leaving a total of 52 usable surveys (Dollinger and DiLalla 1996). Forty-four percent of the respondents were men, 73 percent were Caucasian, six percent were African American, 15 percent were Hispanic, two percent were Asian, two percent were Native American, and two percent reported themselves as “Other.” Ninety-eight percent were 18-24 years old (See Table 5.1).

Procedures

Participants were randomly distributed simulated electricity bills from a hypothetical electric company, the City Utilities Company, from one of two experimental conditions. Those in the treatment condition received a simulated electric bill which represents a component of a green IMC. The stimulus contained a sealed envelope, an itemized bill, and a one-third page educational insert. The envelope was marked with the utility company’s name and address, a pseudo customer name and address, and an inscription in green-colored ink alluding to the fact that the company offered environmentally-friendly services (See Appendices II, JJ, and KK). In particular, the inscription read, “Visit our website at www.www.www for tips on how to protect the environment using CUC smart metering.” The simulated billing statement found in the sealed envelope mimicked a standard electric bill, as it contained itemized charges representing a month’s usage. The simulated bill was also emblazoned with the same inscription found on the face of the envelope, denoting the firm’s environmental-sensitivity. Finally, a one-third page educational insert was found in the envelope that described how consumers could simultaneously reduce their electricity consumption, while protecting the natural environment. The insert was designed to strengthen the stimulus which was intended to suggest that the fabricated utility company had embarked on a sustainable business strategy (See Appendices II, JJ, and KK).

Conversely, in the control condition subjects received a bill reflecting the absence of a green IMC. In particular, the stimulus featured a relatively plain envelope and a standard itemized bill (See Appendices LL and MM). The control bill did not contain a green message. In fact, neither the envelope nor the billing statement provided any evidence to support the
notion that the firm had enacted an environmental program. Finally, the control condition envelope did not contain an insert which would indicate that the firm was, indeed, environmentally-sensitive.

Participants were asked to open the simulated bills and then to complete a brief web-based survey containing several dependent measures. Questionnaires featuring inappropriate responses were eliminated from consideration, resulting in 52 usable surveys. The following section discusses the contents of the survey.

**Dependent Measures, Reliability, and Validity**

Three empirically validated, and two newly devised scales, were included in the battery of dependent measures identified in the survey. All scale items were measured using a seven-point Likert (1 = “Strongly Disagree” to 7 = “Strongly Agree”) format. Participants recorded their perceptions of the firm’s service quality using a five-item Likert scale adapted from Parasuraman, Zeithaml, and Berry (1988). Trust was measured with a three-item Likert scale, including one reverse-coded item (Morgan and Hunt 1994). The firm’s market orientation was measured with a five-item scale adapted from Kohli and Jaworski (1990). In addition, two newly devised measures for the firm’s perceived authenticity and organizational effectiveness at reducing and redressing environmental-ills were included. The latter scale was influenced by Berger and Corbin’s (1992) faith in others construct, except that it was developed to characterize a firm-level trait (See Appendix NN).

A Confirmatory Factor Analysis (CFA) using AMOS 4.0 was conducted to assess the psychometric properties of the five constructs included in the study. A congeneric model was tested to assess the psychometric properties (Anderson and Gerbing 1988). The results indicated that the measurement model fit the data adequately ($N = 52$, $\chi^2 = 436.723$, 220 degrees of freedom, CFI = .95, TLI = .94, and RMSEA = .13$). In addition, the results suggested that all of the measures demonstrated excellent reliability, with composite reliability estimates ranging from .88 to .95, exceeding the recommended .70 threshold (Nunnally and Bernstein 1994). Additionally, the results offered support for both convergent and discriminant validity. With regard to the former, all factor loadings onto each latent variable exceeded .50 and featured statistically significant $t$-values (Anderson and Gerbing 1988; Fornell and Larcker 1981) (See

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$^7$ It has low statistical power.
Table 5.2). With regards to the latter, the average variances extracted were compared with the shared variances between each construct (Fornell and Larker 1981) (See Tables 5.2 and 5.3). This test of discriminant validity suggested that each construct pairing was distinct.

The procedural remedies for common methods bias were employed (cf. Lindell and Whitney 2001; Podsakoff, MacKenzie, Lee, and Podsakoff 2003). More specifically, survey participants were assured of anonymity. Also, existing scales were used where possible, reducing the risk of item ambiguity (Podsakoff and Organ 1986). In addition, the Harman one-factor test was conducted to diagnose the occurrence of common method biasing effects (Harman 1976; Podsakoff and Organ 1986). An exploratory factor analysis (EFA) with an unrotated factor solution using principal axis factoring with SPSS 11.5 was estimated for all of the scale items found in the study (Gorsuch 1997). The results suggested that a single factor did not explain the majority of the variance in the data, as the analysis yielded a five-factor solution with each containing eigenvalues greater than 1.0, accounting for a combined total of 75.97 percent of the variance. Given the occurrence of a five factor solution, and since the primary factor did not account for a majority of the variance (49.21 percent), common methods issues were not found to have substantially biased the results.

**Results**

To test the hypothesis that a green IMC influences consumer attitudes, independent samples $t$-tests were conducted. The results suggest that the battery of dependent attitudinal measures was significantly higher for those in the treatment condition than for those in the control condition (See Table 5.4). More specifically, perceptions of the firm’s authenticity was significantly higher for participants receiving the simulated bill containing a green IMC component than for those receiving a bill lacking evidence to suggest that the firm operated in an environmentally-sensitive manner, $t(50) = 2.32, p < .05, r = .31$. Market orientation was also significantly higher for respondents in the treatment condition than for those in the control condition, $t(50) = 3.46, p < .005, r = .44$. The same logic applied to the balance of dependent

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8 The Harman one-factor test, which uses exploratory factor analysis to test for common methods bias, has been criticized by some methodologists, as it lacks clear guidance on how to conduct the test. In particular, the method does not provide a definitive cut-off for the percentage of variance explained by the first factor that would indicate the presence of biasing effects.
measures; including trust, \( t(50) = 3.81, p < .005, r = .47 \), service quality, \( t(50) = 2.24, p < .05, r = .30 \), and perceived organizational effectiveness, \( t(50) = 3.55, p < .005, r = .80 \) (See Table 5.4).

Thus, the results supported a series of hypotheses which stated that a green IMC implementation positively affects consumer attitudes towards the announcing firm. Specifically, participants maintained higher perception levels of the firm’s authenticity, organizational effectiveness, market orientation, service quality, and trust with the firm when the firm announced concern for the environment. Furthermore, the results suggest that a green IMC implementation features a moderate to strong effect on these variables, with effect sizes ranging from .30 for perceived service quality to .80 for perceived organizational effectiveness (Experimental results, including means and effect sizes, are presented in Table 5.4).

Study Two

Although the results from study one supported a series of related hypotheses which stated that the implementation of a green IMC would positively affect consumer attitudes towards the firm, this experiment did not assess the effects of such a program on actual consumption patterns. Since prior research findings indicate a discrepancy between consumer reported and actual behaviors, additional research is needed to assess the efficacy of a green IMC implementation (Balderjahn 1988; Geller 1981). The following discussion outlines the research method and findings employed in a second study designed to further probe the causal linkage between the implementation of a green IMC and behavioral change. The study investigated behavioral change from a demarketing perspective. More specifically, reduction in usage, or reduction in the growth of usage, was the behavioral change sought as a consequence of green IMC implementation (cf. Gristein and Nisan 2009; Henion 1981; Kauslis, Huettner, and Dikeman 1981). Reduction in electricity usage was chosen as the context, given that energy conservation has been tested in prior studies, is regarded a sustainable behavior, and currently represents an issue of strategic importance to the country (Brown 2008; Gristein and Nisan 2009; Henion 1981).

Participants and Design
In order to evaluate the efficacy of a firm’s green IMC, a quasi-experimental, repeated-measures ANOVA design\(^9\) was conducted (Bergh 1995; Field and Hole 2003). Using the same research context, which dealt with efforts to reduce electricity consumption, actual consumption data were gathered and examined. Specifically, data were harvested from participants\(^10\), \(N = 339\) monthly utility billing statements and paired with data on their service provider’s green IMC implementation status (See Table 5.1 for sample demographics). Monthly consumption in kilowatt hours for October 2008 \(t_1\) and October 2009 \(t_2\) was collected. The data were then tested against four additional quasi-experimental, behavioral factors supplied by respondents. The behavioral factors were generated by asking respondents a series of questions. In particular, respondents were asked 1) if their electric company had adopted a sustainable approach to doing business, as evidenced by the existence of a green IMC; 2) to recall the name of the company’s program, if it had one; 3) if they recycled; and, 4) if they purchased green goods and services. The first two factors dealt specifically with the enactment of a green IMC. Thus, in the event of a statistically significant result, the findings would suggest that there are differences in consumption between the group of participants who could recall that their service provider had a initiated a green IMC, and the group that could not. The last two factors were included, as prior research has suggested that consumer receptivity to IMC components is contingent on individual differences (Bang, Ellinger, Hadijimarro, and Traichal 2000; Granzin and Olsen 1991; Murphy, Kangun, and Locander 1978). Finally, as alluded to above, statistically significant result might be explained by the relative salience of the environmental movement to the respondent (cf. Alba, Hutchinson, and Lynch 1991; Schuhwerk and Lefkoff-Hagius 1995).

A series of four 2 (monthly electric consumption in kilowatt hours: \(t_1, t_2\)) x 2 (participant supplied quasi-experimental behavioral factors: program, no program; recall, no recall; recycle, no recycle; purchase, no purchase) repeated-measures, mixed-subjects design ANOVAs were calculated (Bergh 1995; Field and Hole 2003). Change in usage over time served as the dependent measure for this design, as the analysis permits the assessment of change in a variable recorded at two discrete points in time (e.g., a pretest-posttest design) (Bergh 1995; Field and

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\(^9\) A repeated measures ANOVA design is a mixed-subjects experimental or quasi-experimental design. In other words, it is an experiment that measures the same subjects more than once on a given variable (e.g., a longitudinal study). In this case, the subjects were measured on their electricity consumption for two discrete time periods, with the data collected through self-reports, directly from the survey respondents’ utility bills.

\(^10\) The sample of participants was recruited by students in a marketing research course. The participants responded voluntarily. A sample of the participants was contacted to ensure that the data were legitimate (See Table 5.3 for sample demographics).
Objective consumption measures served as the within-subjects factor, while participant supplied factors (whether or not the participant recycled, for example) served as the between-subjects factor.

Four-hundred fifty-six consumers were recruited for participation in the study by students in a marketing research course. One-hundred seventeen responses were eliminated due to participants’ failure to appropriately respond to one of three embedded quality check questions, resulting in 339 usable surveys. Forty-two percent of the respondents were men, 85 percent were Caucasian, four percent were African American, seven percent were Latino, less than one percent were Asian, less than one percent were Native American, and three percent reported themselves as “Other.” Twenty-four percent were 18-24 years old, five percent were 25-31, four percent were 32-38, ten percent were 39 to 45, 27 percent were 46 to 52, 15 percent were 53 to 59, seven percent were 60 to 66, four percent were 67 to 73, and four percent were 74 years of age and over (See Table 5.1).

Procedure

Participants were instructed to complete a brief web-based survey containing several dependent measures. The procedure included having the participants log their electricity consumption in kilowatt hours for the past 13 months, which was found on their October 2009 electricity billing statement. In addition, participants were asked a series of opened- and closed-ended questions to capture their knowledge of their utility providers’ sustainable behaviors, and corresponding public announcements testifying to these behaviors (IMC). Furthermore, participants’ sustainable practices were also captured in this process. In particular, participants were asked “Does your electric company have an environmental program?” Responses to this question created a variable named program which was coded with a one if the participant responded with “yes” and a zero if they responded with “no.” Also, participants were asked to recall the name of their utility company’s program. If respondents were able to correctly recall the name of the program, a variable by the same name was coded with a one. If a respondent was not able to do so, zero was recorded. Finally, participants were asked “Do you recycle?” and “Do you buy environmentally-friendly products?” Their responses were then coded with a one if the participant responded with “yes” and a zero if “no” for two newly created variables labeled recycle and purchase.
Results

A 2 (monthly electric consumption in kilowatt hours) X 2 (participant supplied quasi-experimental, behavioral factors) repeated-measures, mixed-subjects ANOVA\textsuperscript{11} was conducted using each behavioral factor, with change in electricity usage over time serving as the dependent measure (Bergh 1995; Field and Hole 2003)\textsuperscript{12}. The results from the analysis using the program variable suggested that the expected increase in electricity usage over time was not related to the company’s green IMC \[ F(1, 307) = 0.885, p = .348 \]. Similarly, the results for recall and purchase were not found to be significantly different between subjects who were able to successfully recall the name of their utility company’s program or who stated that they purchased environmentally-friendly goods and services, \[ F(1, 334) = 0.587, p = .444 \] and \[ F(1, 330) = 0.265, p = .607 \] respectively. However, the results suggested that the change in electricity usage over time was not the same for those participants who recycle \[ F(1, 334) = 6.35, p < .01, \eta^2 = .019 \]. More specifically, the change in mean electricity consumption for respondents claiming to recycle was significantly lower than that of respondents claiming to not recycle (Mean usage \( t_1 = 1864.91 \) kilowatt hours and Mean usage \( t_2 = 1940.03 \) kilowatt hours versus Mean usage \( t_1 = 1920.91 \) kilowatt hours and Mean usage \( t_2 = 2273.01 \) kilowatt hours). While the results did not provide support for the hypothesis that a green IMC influences consumption, the findings do suggest that consumers who recycle, and thus engage in environmentally-conscious behaviors, have a lower change in mean electricity usage over time (See Tables 5.5 and 5.6) (See Figure 5.1).

Study Three

\textsuperscript{11} It should be mentioned that two repeated-measures, mixed-subjects ANCOVAs (analyses of covariance) were conducted prior to the reported ANOVAs in order to ‘partial-out’ (remove) any variance in the change in electricity usage that may be attributable to a confounding factor. Since temperature differences existed across the sample due to the respondent’s geographic dispersion and since temperatures tend to fluctuate on annual basis, two new covariates based on temperature were developed. In each case, however, the temperature based covariates proved to be non-significant. This suggests that regional temperature differences and annual temperature fluctuations do not have a statistically significant effect on changes in relative consumption magnitudes in this particular sample. Please, see the appendix for details.

\textsuperscript{12} It should be noted that in each ANOVA conducted, Mauchly’s test statistic, “which tests the hypothesis that the variances of the differences between conditions are equal” was found to be statistically significant (Field 2009, p. 460). To deal with violations of this assumption, Greenhouse-Geisser corrected F-values provided in SPSS 11.5 output were examined. These results were used in this report, as methodologists suggest that this approach “enables researchers to test nonsymmetrical designs with high confidence and accuracy” (Bergh 2000, p. 1694).
The results from the two previous studies focused on how the implementation of a green IMC impacts both attitudes and behaviors. Although the information is useful for managers and academics, a key question remains largely unanswered. That is, what are the factors that influence consumers to act positively towards a green announcing firm? Knowing the answer to this question helps managers understand how to develop more persuasive green IMCs.

To answer this question, the final study develops a structural equation model to examine how individual and organizational difference variables impact consumer outcomes. In terms of individual factors, environmental concern and knowledge were selected, as they have been shown to positively influence purchasing behaviors (Diamantopoulos, Schlegelmilch, Sinkovics, and Bohlen 2003; Drumwright 1994; Roberts and Bacon 1997). In terms of organizational factors, the two newly developed measures mentioned above were used (perceptions of a firm’s authenticity and perceptions of the organization’s effectiveness at redressing environmental ills), in conjunction with trust (Morgan and Hunt 1994). Although the first two factors have not been tested in empirical research, studies have shown support for the positive effects of similar constructs on purchase intentions (cf. Berger and Corbin 1992; Bloom, Hoeffler, Keller, and Basurto 2006; Carlson, Grove, and Kangun 1993; Osterhus 1997).

Thus, the final study is exploratory in nature. Instead of developing formal research hypotheses a series of research propositions are tested and calls for future confirmatory research are made. Specifically, a model is identified to test the propositions that environmental knowledge positively impacts that a consumer’s level of environmental concern, which positively impacts outcomes (See Figure 5.2). Additionally, the model tests the proposition that environmental knowledge has a direct positive impact on consumer outcomes. Furthermore, the research model tests the propositions that perceptions of a firm’s level of authenticity and trustworthiness positively mediate the positive impact that consumers’ perceptions of organizational effectiveness have on consumer outcomes (See Figure 5.2). The following sections discuss the research method employed, and provide an overview of the findings.

Structural Equation Modeling Analysis

The same sample used in study two was used for the SEM analysis. Specifically, students in a marketing research course recruited voluntary respondents for participation.
Respondents were asked to complete an online survey containing 29 items, measuring environmental knowledge, environmental concern, perceptions of organizational effectiveness, perceptions of firm-level authenticity, and consumer trust. Several quality assessment items were interspersed throughout the survey, in order to detect the occurrence of yea-saying and other potentially problematic responses (Dollinger and DiLalla 1996; Podsakoff, MacKenzie, Lee, and Podsakoff 2003). In particular, the statements: “Do not answer this question” and “If you read this, leave this line blank” were included. Each of these were measured using a seven-point Likert response format, anchored with 1 = “Strongly disagree” and 7 = “Strongly agree.” Surveys featuring inappropriate responses to these items were eliminated from consideration, as were surveys containing an incomplete section. A total of 456 completed surveys were received, with 117 discarded due to quality issues, resulting in a total of 339 usable surveys.

With the exception of the newly developed scales for perceptions of the firm’s authenticity and organizational effectiveness at reducing and redressing environmental ills, each of the scales in the questionnaire had been used in published research. Each had proven to be a valid and reliable measure of its respective construct (cf. Maloney, Ward, and Braucht 1975; Morgan and Hunt 1994). Similar to the format used in study one, all scale items were measured using a seven-point Likert (1 = “Strongly Disagree” to 7 = “Strongly Agree”) format. To measure perceptions of the firm’s organizational effectiveness and its authenticity, the same five-item scales measured in study one were included in the survey instrument (See Appendix NN). The same logic applies to the measure of trust, which included one reverse coded item (cf. Morgan and Hunt 1994). Environmental concern was measured using a four-item scale (Maloney, Ward, and Braucht 1975). Finally, “consumer outcomes” was measured with a six-item version of the scale adapted from Zeithaml, Berry, and Parasuraman’s (1996)

Since 25.6 percent of the surveys were eliminated from the analysis, some might take issue with the large quantity of data discarded. It should be noted that, as stated above and in accordance with standard survey research practices, only incomplete surveys were discarded. Unfortunately, several factors may have influenced respondents’ failure to complete the survey. In addition, completed surveys required that respondents enter data collected directly from their utility bills. Although respondents had received instructions prior to the survey’s administration that they would have to use their utility bills to complete the survey, seventeen percent of the respondents failed to complete this pivotal section. Thus, while the percentage of respondents not completing the survey may have been relatively large, several survey design related issues may have influenced this behavior. However, since standard practices were used in the data cleansing process and since the survey contained multiple quality assurance measures (e.g., imbedded quality items, reverse coded items), the data collected for this study were of the highest possible quality (Hair, Black, Babin, Anderson, and Tatham 2006; Podsakof et al. 2004).
multidimensional behavioral intentions scale. It should be mentioned that one of these six items also required reverse coding.

As was done for study one, a variety of measures were taken to prevent the occurrence of common methods bias (cf. Lindell and Whitney 2001; Podsakoff, MacKenzie, Lee, and Podsakoff 2003). Once again, participants were assured of anonymity. Additionally, existing scales and reverse coded items were used where possible (Podsakoff and Organ 1986). Moreover, prior to estimating the parameters in the measurement model, the Harman one-factor test was conducted to diagnose the occurrence of common method biasing effects (Harman 1976; Podsakoff and Organ 1986). Specifically, an exploratory factor analysis using an un-rotated solution with SPSS 11.5 was estimated for all of the scale items found in the study. The results suggested that a single factor did not explain the majority of variance, as the analysis yielded a six-factor solution with each construct containing an eigenvalue greater than 1.0, accounting for a total of 61.66 percent of the variance. Since a six-factor solution was found, and since the primary factor identified in the data did not account for the majority of the variance explained (35.57 percent), common methods issues did not appear to have substantially biased the results.

**Results**

A Confirmatory Factor Analysis (CFA) using AMOS 4.0 was conducted to assess the psychometric properties of the six constructs included in the study. As was done in study one, a congeneric model was estimated (Anderson and Gerbing 1988). After deleting items with factor loadings of less than .50, the results indicated that the measurement model fit the data adequately ($N = 339$, $\chi^2 = 437.10$, $df = 217$, $CFI = .99$, $TLI = .99$, and $RMSEA = .055$). In addition, the results suggested that all of the measures demonstrated acceptable reliability, with composite reliability estimates ranging from .72 to .93, exceeding the recommended .70 threshold (Nunnally and Bernstein 1994). Additionally, the results offered support for both convergent and discriminant validity. With regard to the former, all factor loadings onto each latent variable exceeded .50 and featured statistically significant $t$-values (Anderson and Gerbing

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14 Two scale items used to measure consumer outcomes (adapted from Zeithaml, Berry, and Parasuraman’s [1996] multidimensional behavioral intentions scale) were deleted, as they had low factor loadings. Specifically, the items “My usage of this company has been high,” and “I would continue to do business with this company if its prices increase somewhat,” which had factor loadings of .299 and .419 respectively, were eliminated from the analysis.
Discriminant validity was assessed using the two most common approaches found in the literature. First, the average variances extracted were compared with the shared variances between each construct (Fornell and Larcker 1981) (See Tables 5.7 and 5.8). Using this stringent test of discriminant validity, each construct pairing proved to be distinct, except for the cases of trust and authenticity and trust and consumer outcomes (De Wulf, Odekerken-Schroder, and Iacobucci 2001; Osterhus 1997). A second approach, however, which involves conducting a series of sequential chi-square difference tests, whereby the correlations between each construct pairing are freely estimated and then fixed to unity, was conducted (Anderson and Gerbing 1988). These results provided support for discriminant validity, as the chi-square values for each unconstrained model was significantly lower than those found in the constrained model (Anderson and Gerbing 1988).

Following an assessment of the research model’s measurement properties, the structural equation model’s parameters were estimated using AMOS 4.0 (cf. Anderson and Gerbing 1988). The results suggested that the data fit the model adequately (N = 339, χ² = 585.97, df = 224, CFI = .99, TLI = .98, and RMSEA = .069), thus providing support for the structural model. Furthermore, all of the gamma (γ) and beta (β) parameters were found to be statistically significant, except for the path from environmental knowledge to consumer outcomes, providing support for each research proposition, except for P7 (See Table 5.9). More specifically, the findings provided support for proposition one, which suggests that consumer perceptions of the firm’s organizational effectiveness at reducing and redressing environmental ills positively impacts perceptions of a firm’s authenticity (γ = 0.48, p < 0.005). Also, perceived organizational effectiveness was shown to have a strong positive effect on trust in the firm (γ = 0.58, p < 0.005), supporting P2. Furthermore, perceptions of a firm’s authenticity positively affected consumer outcomes (β = 0.21, p < 0.005), whereas trust exhibited a strong impact on it as well (β = 0.73, p < 0.005). The consumer’s level of environmental knowledge was found to impact their level of environmental concern (β = 0.64, p < 0.005), providing support for P5. Additionally, consumers’ reported level of environmental concern impacted consumer outcomes (β = 0.14, p < 0.01) supporting P6. Finally, as alluded to above, a consumer’s level of environmental knowledge was found to have a non-significant effect on consumer outcomes (β = -0.07, p = -1.10).

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15 Anderson and Gerbing’s (1988) discriminant validity assessment method is the second most widely used in marketing.
In addition to the traditional structural equation modeling analysis, Baron and Kenny’s (1986) mediation assessment procedure was used to test the proposed model for mediation. Given that the model implied dual mediation, this assessment required several steps. In the first step, when trust was removed from the model, a significant positive relationship was found between perceived organizational effectiveness and consumer outcomes ($\beta = 0.24, p < 0.005$). The occurrence of this statistically significant relationship meets the first requirement for mediation. The second and third requirements were implicitly tested when the initial model was estimated. More specifically, these requirements were met when perceived organizational effectiveness was found to have a significant relationship with a mediator (trust) and when trust was found to have a significant relationship with the dependent measure (consumer outcomes towards the firm). Finally, when a direct path was included between perceived organizational effectiveness and consumer outcomes, this path becomes non-significant when a link remains between perceived organizational effectiveness and trust ($\beta = 0.02, p < 0.687$), suggesting full mediation of this relationship. The result from a Sobel test ($z = 6.24, p < .005$) further validates this finding. More specifically, since the Sobel test was significant there is evidence that trust carries the effects of perceived organizational effectiveness on consumer outcomes. The mediated relationship between perceived organizational effectiveness and consumer outcomes, however, was the only mediated relationship found in the research presented, thus providing support for a partially mediated research model. In other words, only in the linkage between perceived organizational effectiveness and consumer outcomes did a variable come in between the two constructs in such a way as to completely eliminate the exogenous variable’s effects.

The results from the structural equation modeling analysis indicated that the model explained some of the variance in outcome measures. More specifically, 23 percent of the variance in perceptions of the firm’s authenticity was explained by perceptions of the firm’s organizational effectiveness. Moreover, an $R^2 = 0.34$ value for consumer trust in the firm signified a modest amount of variance explained by organizational effectiveness. Additionally, 41 percent of the variance in the consumer’s level of environmental concern was explained by their level of environmental knowledge. Finally, 68 percent of the variance in consumer outcomes was explained by the individual and organizational difference factors found in the model, suggesting that in concert the variables strongly influence consumer behaviors (see Table 5.9).
Although the research model contains several newly devised constructs not directly tested in the literature, research containing similar constructs might suggest a model with a slightly different configuration. This implies an alternative model whereby environmental commitment, positively impacts environmental knowledge, which positively impacts environmental concern (See Figure 5.3). The model also posits that environmental commitment and environmental concern positively affect consumer outcomes (See Figure 5.3). To test the effects of this alternative model, the research model was reconfigured and its parameters and fits statistics were estimated. The results, however, suggested that the proposed research model exhibits a better fit to the data \( N = 339, \chi^2 = 585.97, df = 224, \text{CFI} = .99, \text{TLI} = .98, \text{and RMSEA} = .069 \) than the alternative model \( \chi^2 = 716.3, df = 293, \text{CFI} = .98, \text{TLI} = .98, \text{RMSEA} = .069 \), as indicated by a chi-square difference test \( \Delta\chi^2 = 130.3, \Delta df = 69, p < .00005 \). Thus, the evidence suggests that the proposed model more parsimoniously captures the association of these individual difference variables on consumer outcomes than does a plausible alternative model (cf. Anderson and Gerbing 1988) (See Figure 5.3).

Discussion and Implications

Marketers seeking to promote awareness of their firm’s environmentally-friendly operations face a daunting challenge, as consumers appear increasingly cynical towards firms purporting to be ‘green’ (Osterhus 1997; Prendergrast and Thompson 1997). In light of this, and the substantial investment required by firms intending to portray themselves as green, a more clear understanding of the effects of organizational greening efforts is valuable to organizational decision makers, as well as to marketing scholars. For the reasons noted, the research presented seeks to appraise the effectiveness of strategically implementing a green IMC. The results from three studies provide mixed support for the notion that green IMCs can affect both consumer attitudes and actual consumption patterns. In addition, the results indicate that a combination of perceptions of certain firm-level characteristics and individual difference variables influences consumer outcomes. The following section discusses each of these findings in turn.

First, in an experiment testing the effects of a single component of a green IMC, participants maintained better attitudes towards a hypothetical firm which was portrayed as having adopted a sustainable business strategy, thus providing support for each experimental hypothesis (H1 through H5). More specifically, participants in the treatment condition of a main
effects study, receiving a mimicked monthly utility bill from a hypothetical firm which promoted itself as green, found this company to be more authentic, market oriented, and trustworthy, than did participants in the control condition (See Table 5.4). The results also indicate that those in the treatment condition characterized these self-proclaimed environmentally-conscious firms as maintaining a higher level of service quality and as being more effective at redressing environmental issues than did those in the control condition. The results bode well for firms leveraging a green IMC to convey efforts, as the results imply that self-proclaimed green firms are held in a higher regard than are firms choosing to not promote their sustainability initiatives. More specifically, the results suggest that firms promoting themselves as green are perceived of by consumers as being more market oriented, trustworthy, authentic, effective at redressing environmental issues, and having higher service quality.

In a second study, a quasi-experimental repeated-measures mixed-subjects ANOVA design tested the effects of a firm’s green IMC implementation (along with other related factors) on actual consumption measures, in a demarking context (cf. Bergh 1995; Field and Hole 2003; Gristein and Nisan 2009). By combining objective data from participants’ bills with recollection of firm’s marketing campaign, the design allowed for a direct assessment of behavioral changes occurring as a result of the firm’s efforts. While the study’s results did not provide support for $H_6$, they did suggest that a consumer’s green tendencies, as evidenced by their recycling behaviors, resulted in reduced consumption (See Table 5.5). In particular, participants who claimed to recycle used less energy over time when compared with those that were certain that the firm had a green IMC, recalled the specific name of the firm’s IMC, and claimed to purchase green goods and services. The finding suggests that firms, such as utility companies, seeking to reduce consumption should target recyclers as a segment, given the tendency towards conservation. The finding may also indicate that the key to reducing electric consumption is behavioral (Foxall 2007). That is, by engaging consumers in related activities, such as using programmable thermostats and “smartmeters”, consumers may be positively reinforced to perform such behaviors. It also, however, suggests that green IMCs may not be memorable and thus ineffective. Investments should be made to make green IMCs more impactful.

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16 Smartmeters are advanced utility metering devices that provide users with a detailed accounting of their electric consumption. The underlying premise behind the implementation of such devices is to first draw consumer awareness to the quantity of usage and then to demonstrate that they can control usage (Vaughan 2009).
In a final study, a structural equation model was developed and tested to examine the effects of both individual and organizational difference factors on consumer outcomes (cf. Diamantopoulos, Schlegelmilch, Sinkovics, and Bohlen 2003; Maloney, Ward, and Braucht 1975; Morgan and Hunt 1994; Roberts and Bacon 1997; Zeithaml, Berry, and Parasuraman 1996). The results provided support for the notion that organizational characteristics positively influence consumer outcomes. In particular, the findings indicate that the consumer’s perceptions of a firm’s organizational effectiveness at redressing environmental issues impacts their trust in the firm, as well as their perceptions of its authenticity. Furthermore, the results suggest that the latter two factors positively influence consumers’ tendencies to speak well of the firm in question, along with incentivizing customer loyalty. That is, authenticity and trust were found to positively influence consumer outcomes (See Table 5.9). This finding is particularly useful to managers, as it suggests that marketing efforts designed to improve perceptions of the firm’s genuineness and trustworthiness have strong effects on consumers’ attitudes and subsequent behaviors towards the firm.

With regard to individual differences, the results suggest that consumers’ environmental knowledge positively influences their levels of environmental concern. However, while environmental concern was found to positively influence consumer outcomes, the effect of environmental knowledge on consumer outcomes was not found to be statistically significant (See Table 5.9). The findings suggest that firms seeking to improve their relations with consumers should develop IMCs that tap into consumers’ emotions, as such efforts may have a positive effect on consumers’ attitudes towards the firm. Additionally, given that a consumer’s level of environmental concern was found to impact consumer outcomes and since the number of environmentally-concerned consumers is rising, firms should also attempt to demonstrate how their offerings are environmentally-friendly and thus how such offerings alleviate the need to worry about environmental degradation resulting from consumption. Finally, the model explained a sizable amount of the variance (68 percent) in consumer outcomes, suggesting that it is relatively well-specified. That is, the explanatory factors identified in the model effectively contribute to the understanding of how consumers react towards firms implementing a green IMC. However, 32 percent of the variance is not explained. This suggests that additional research should be conducted to develop a more fully specified model.
An additional test was conducted on the proposed structural equation model. In particular, the model was tested for mediation (cf. Baron and Kenny 1986; Byrne 2001; Steenkamp and Baumgarder 1998). The results suggest that although the model diagrammatically implies dual mediation, only trust in the organization fully mediates the relationship between perceived organizational effectiveness and consumer outcomes (See the above discussion). Specifically, the test indicates that when trust is included in the model, the effect of perceived organizational effectiveness on consumer outcomes is reduced to a non-significant and inconsequential value, thus implying that its effects have been rendered substantively unimportant (cf. Baron and Kenny 1986). The results suggest that consumer trust in the firm plays a major role in influencing behaviors and thus it should be cultivated. The results also suggest that additional variables need to be tested in the model in order to garner a more thorough understanding of consumer reactions to a green IMC implementation. Finally, the results of a Sobel test conducted on this sole mediated path indicated that, indeed, the mediator carried the influence of the independent variable to the dependent variable, providing additional support for a fully mediated relationship within a partially mediated model (cf. Baron and Kenny 1986).

Conclusions, Managerial Implications, Theoretical Implications, Limitations, and Research Extensions

Developing and implementing a green IMC presents a firm with substantial financial risks, given the potentially sizable investments required to do so. Green IMC deployment also places a firm’s brand image at risk, given that many firms doing so are perceived of as disingenuous. Thus, both theory and practice benefits from this attempt to understand the effects of deploying a green IMC. The following section provides a paragraph on the implications for each study.

Managerial Implications

First, an experiment is conducted to examine the effects of a firm’s green announcement on a variety of consumer outcome variables. The results are relevant for practitioners, as the findings indicate that one tangible component of a firm’s IMC (e.g., a bill that contains evidence
to suggest that a firm operates in an environmentally-sustainable manner and supports environmental-sensitivity) impacts consumers’ perceptions of a firm’s authenticity, market orientation, effectiveness at remedying environmental ills, service quality level, and level of authenticity. Thus, the finding suggests that firms may benefit as a result of implementing a component of an IMC. Study two also has implications for practitioners. Since the study suggests that recyclers’ consumption patterns increased less than other consumers in the study, firms seeking to influence consumption reduction should target consumers who engage in recycling. Thus, electric companies may want to consider advertising the benefits of reduced electric usage on recycling bins. Finally, study three models the impact of perceptions of firm related and individual difference factors on consumer outcomes. These findings are relevant for managers as they suggest consumer trust and perceptions of a firm’s authenticity strongly influence consumer outcomes. These findings, however, also suggest that a consumer’s level of environmental concern and knowledge have relatively lower level of influence on consumer outcomes. This may suggest that managers will reap a higher return from creating IMCs that highlight the organization’s effectiveness at dealing with the environmental problem, as doing so should engender trust and increase perceptions of the firm’s authenticity, as these qualities have the greatest impact on consumer outcomes.

Theoretical Implications

From a theoretical perspective, study one makes an incremental contribution as it is the only study to the author’s knowledge that explores the relationship between a manipulated factor (representing an IMC component) and the battery of psychometric scales. It should also be noted that this theoretically significant finding implies that future research examine these variables with other manipulated independent variables. Study two contributes to theory in that it appears to be the first that attempts to leverage the realism of a quasi-experimental design on changes in actual consumption behaviors, the results only provide support for one tangentially related hypothesis. Specifically, that recycling behavior is associated with reduced consumption. The finding, however, could be argued to represent an important theoretical contribution, as research on the association between prior pro-environmental behaviors and consumption reduction is limited (cf. Grinstein and Nisan 2009). As stated above, the finding may indicate that related
behaviors can influence behavioral changes. That is, by engaging consumers in pro-environmental behaviors, firms may be able to “shape” additional related behaviors through contingencies of reinforcement or by the pairing of stimulus and response (cf. Foxall 2007). This finding implies that future research should investigate the effects of other pro-environmental behaviors (e.g., environmental group membership) on behavioral changes. Finally, the results from study three have theoretical implications as they indicate that to some extent both groups of factors (e.g., organizational and consumer related factors) play a role in influencing consumer outcomes (e.g., loyalty, repurchase intentions). The finding might also be considered to represent an incremental contribution as such variables have not been tested simultaneously in a nomological network in prior research. The findings also provide insight into the magnitude of effects provided by such factors.

Limitations

Although the research presented makes the aforementioned noteworthy contributions, the research contains a handful of limitations are worth noting. For example, in the first study, two newly devised and non-validated constructs, perceptions of firm-level authenticity and perceptions of an organization’s effectiveness at redressing environmental ills, were tested as dependent measures. While the variables were found to be significantly affected by a stimulus designed to mimic a firm’s green IMC implementation, the robustness of reported results using these variables need to be considered. Additionally, despite the fact that efforts were made during the data collection processes to incorporate procedures to prevent the occurrence of methods biasing effects, such biases may still be present. In addition, although the Harman one factor test was used to diagnose the occurrence of such effects, some might argue that such efforts were insufficient and that more stringent approaches should be used in future research seeking to garner a more accurate portrayal of the relationships amongst the variables found herein.

There were also issues that limit the results derived from study two. In particular, although the quasi-experiment that used actual consumption data did not provide support for the notion that an IMC can change behaviors, the quasi-experiment did suggest that an association between a pro-environmental consumer behavior (e.g., recycling) and change in consumption
over time. However, ascribing a causal linkage between these factors might not be advisable as the data did not permit the assessment and elimination of potentially confounding factors, such as variations in weather conditions and the consistency of residence and occupancy in households reported on by survey respondents. As is the case with all research in general and quasi-experimental research in particular, the findings should be considered in context with and relative to previous findings. As a final limitation for study two, the results did not suggest that a green IMC is effective at curbing consumption. While this outcome may be discouraging to some, this is perhaps the most important finding, as it paves the way for additional research.

Study three’s findings might also be limited due to additional issues. First, as alluded to above, since authenticity and perceived organizational effectiveness have not been properly validated (cf. Clark and Watson 1995), the findings from these scales should be closely scrutinized. In particular, the psychometric properties of these scales may have attenuated path coefficients in the model, thereby deflating parameter estimates in some cases, and perhaps resulting in the non-significant relationship in the model between environmental knowledge and consumer outcomes. In addition, since the normed or relative chi-square value (chi-square divided by degrees of freedom) for the research model equals 2.58, the model may be suggested to suffer from fit issues. However, “Carmines and McIver (1981: 80) state[s] that relative chi-square should be in the 2:1 or 3:1 range for an acceptable model. [In contrast,] Ullman (2001) says 2[:1] or less reflects good fit,” it may be safe to conclude that the disagreement amongst methodologists suggests that this may represent a non-issue (Garson 2009). Additionally, some may question the face validity and relevance of some of the scales used in the research model. Although this may be a valid concern, incremental improvements to the body of knowledge may also be argued to be most appropriately built on prior research findings. Since the majority of scales used in the research presented were validated and published in prior research, the findings derived from their use may offer some value to the developers of these scales and green marketing researchers who have used them since their initial validation. Furthermore, despite the fact that standard survey research procedures were used, the number of respondents deleted was relatively high, thus possibly placing the quality of the data gathered into question. Finally, although all of the constructs passed the less stringent discriminant validity test (cf. De Wulf, Odekerken-Schroder, and Iacobucci 2001; Osterhus 1997), some may have issue with the high correlation amongst constructs.
Research Extensions

In light of non-significant findings in studies two and three, the research presented calls for future studies on the effects of a green IMC implementation on actual consumption behaviors. Extensions could study behaviors linked to demarketing programs, as well as to campaigns designed to positively change behaviors. The results also suggest that research extensions should attempt to investigate potentially confounding variables were possible. More specifically, although an ANCOVA conducted on the study two dataset suggested that regional temperature variation did not impact the results, additional convariates should be explored (See Appendix OO). In particular, future work may want to consider the effects of household characteristics. Furthermore, in an effort to extend study three, future work should be conducted to explore the impact of additional organizational and individual difference variables on both consumer outcomes and actual behaviors. The addition of moderating factors may explain the reason for the non-significant linkage found in the proposed research model, as well as for the non-significant quasi-experimental findings related to behavioral change. Thus, moderators, such as price and quality, which have been proposed to affect green consumer behaviors, should be examined (Meredith Ginsberg and Bloom 2004).

In closing, managers should recognize that the effects of implementing a campaign highlighting a firm’s environmental consciousness can be described as mixed at best and inconclusive at worst. Managers, however, should also recognize that green IMC deployment appears to positively influence attitudes towards the firm. Furthermore, although attitudinal changes may not result in immediate behavioral changes, managers should recognize that these changes may have a lagging effect on performance. Thus, future research should attempt to clarify this relationship. In the meantime, if a firm chooses to authentically adopt a sustainable business strategy, its managers may consider announcing these efforts despite the lack of support for an immediate and measurable return on investment.
CHAPTER SIX

SUMMARY AND CONCLUSIONS

The purpose of this dissertation was to investigate the viability of adopting a firm-level green marketing strategy. Three essays and a literature review were developed to answer a series of questions which revolve around the benefits of adopting such a strategy. First, an extensive literature review integrates what is known and what needs to be learned about green marketing in general. Second, Essay 1 leverages a grounded theory analysis of consumer and organizational employee in-depth interviews to uncover the barriers to and enablers of the adoption of green goods and services. Third, Essay 2 uses a combination of qualitative and quantitative studies to assess the efficacy of a firm’s adoption of a green market orientation on a variety of relevant consumer outcome variables. Moreover, Essay 3 conducts a series of studies, including an experiment, quasi-experiment, and structural equation modeling analysis, to examine the effects that a firm’s green announcements have on both consumer attitudes and behaviors.

The following discussion highlights the dissertation’s findings by detailing each essay’s contributions that are relevant to both theory and practice. In addition, each essay’s limitations are discussed. Furthermore, each essay’s research extensions are summarized, providing opportunities for green marketing researchers to build on the results found herein. Finally, concluding remarks containing an overall summary are presented.

Literature Review

Theoretical and Managerial Implications

“Sustainable Marketing Strategy Research: What we know and what we need to learn” contributes to theory and practice in that it, first, provides insights into the field’s understanding of how such a strategy impacts a variety of stakeholders and how these stakeholders influence strategy implementation. The review accomplishes this task by building on the established three Ps framework to integrate a wide selection of business articles that center on green marketing.
strategy (Elkington 1994). In terms of findings, the literature review suggests that many firms recognize the planet as a stakeholder in an increasingly publicized environmental debate. It also notes, however, that firms are oftentimes challenged by consumer receptivity to green offerings, as consumers’ stated demand does not always translate into sales. The review also indicates that people play a role in the adoption of green offerings. In particular, consumers, organizational champions, and employees have been found to impact an organization’s efforts to engage in sustainable business practices. Finally, the review suggests that many firms have been rewarded for developing a sustainable marketing strategy, but the review also indicates that financial rewards are not always guaranteed.

The literature review also contributes to theory by pinpointing knowledge gaps and research extension opportunities. For example, the review encourages future research to identify factors that may inhibit the adoption of green offerings and thus a firm’s efforts at protecting the planet. In this regard, the review suggests that investigations into how social factors might influence consumer adoption should be undertaken. Furthermore, in terms of organizational adoption, the review suggests that research should study the role that channel intermediaries play in this process. The review also encourages investigations into the relative level of influence that employees and managers have on organizational greening. In other words, research may seek to better understand an organization’s internal drivers for adoption of such a strategy. The review, finally, suggests that given the inconclusive findings regarding the profitability of sustainable marketing strategy enactment, additional studies should be conducted. In this vein, potential moderating factors (e.g., product, business unit, and firm related factors) should be investigated.

Limitations and Extensions

Although the literature review provides information for both practitioners and scholars, several limitations must be addressed. First, despite the fact that 311 articles from across business disciplines were initially investigated for the review, it could be argued that the review’s scope is narrow. In particular, whereas the review does include a few articles from the operations management literature, the effort barely scratches the surface, as operations research has a relatively well developed sustainability literature base centering on issues ranging from waste reduction to the cost savings measures that “going green” affords a firm (cf. Markley and Davis 2007). In addition, although the review is framed to consider each stakeholder outlined in
the 1987 Brundtland Commission report, literature from other scientific disciplines (e.g., political science, sociology, anthropology, and environmental studies) should be investigated, as some might argue that the articles contained herein unabashedly subscribe to the dominant social paradigm\textsuperscript{17} (cf. Fisk 1998; Kilbourne and Carlson 2008).

Essay 1

\textit{Theoretical Implications}

“Barriers to and enablers of the adoption of ‘Green’ offerings” contributes to scholarship by building theory on both consumer and organizational adoption factors using a discovery oriented approach (cf. Bendapudi and Leone 2002). Using a grounded theory approach, which generates theory through an analysis of qualitative data, the essay aims to inductively capture the majority of adoption factors in two conceptual models. In terms of organizational adoption factors, the research finds that supplier related and intraorganizational barriers impede adoption, while government intervention, organizational values, and the benefits streaming from adoption, support the firm doing so. In terms of consumer adoption, the research finds consumer and offering characteristics stifle adoption, whereas firm characteristics and consumer needs influence adoption. Furthermore, consumers suggest that firms can leverage marketing mix elements to overcome adoption barriers, while organizational informants suggest that firms that align communications, offerings, and actions may be used to remove barriers.

The essay also contributes to theory as it serves as a catalyst for future research streams. The midrange theories identified contain constructs that may be operationalized using the Churchill (1979) scale development paradigm and subsequently subjected to confirmatory analyses using a more traditional hypothetico-deductive approach (e.g., structural equation modeling and general linear modeling).

\textit{Managerial Implications}

Essay 1 contributes to practice by providing a window into the factors that influence green goods and services adoption in consumer and industrial markets. More explicitly, the

\textsuperscript{17} The dominant social paradigm is defined as the prevailing worldview that innovation can help to rectify the damage inflicted on the planet induced by a mass-consumption society (Kilbourne and Carlson 2008).
essay’s findings suggest that organizational barriers revolve around supplier related factors (e.g., marketing’s four Ps) and intraorganizational factors (e.g., firm characteristics, organizational culture, and costs). The essay’s findings also indicate that consumer adoption is inhibited by consumer characteristics (e.g., apathy, skepticism, and self-serving behaviors) and product/service characteristics (e.g., product aesthetics, product quality, and availability).

In terms of enablers, the essay’s results point to the fact that “going-green” is beneficial for a firm, influenced by government intervention, and enabled by organizational and core values. Consumer enablers include firm related characteristics (e.g., effective advertisers, marketplace offering ubiquity, quality, and convenience) and those related to consumer needs (e.g., basic, safety, esteem, and transcendental needs). Finally, the essay provides strategies for green goods and services providers seeking to overcome barriers to the adoption of green products. More specifically, managers seeking to overcome organizational adoption barriers are encouraged to align their sustainability efforts. That is, firms should harmonize their communications, actions, and offerings in such a way that the provider is perceived of as genuinely “green.” Additionally, managers seeking to overcome consumer adoption barriers are directed to make effective use of marketing mix elements. Specifically, consumers suggested that green vendors should control the pricing of green offerings, as they claim to have grown weary of green-price-gouging. In addition, consumers called for more informative advertising, as they stated that they were oftentimes unaware of new green offerings and the benefits associated with adoption. Consumers also called for green vendors to make green offerings more available in the marketplace. Finally, consumers suggested that green offerings must not compromise on salient product attributes (e.g., quality, durability, reliability).

Limitations and Extensions

Although Essay 1 contributes to theory and practice by identifying barriers to and enablers of adoption, along with a host of implementable strategies to circumvent adoption issues, the research effort is not without limitations. First, the essay’s findings may be limited in that they only consider the adoption phenomenon from one perspective, that of either the consumer or organizational respondent. To gain a more clear understanding of the adoption process for green products, additional research should be conducted that considers adoption from the supplier’s perspective as well. By conducting a dyadic study, differences in opinions
between parties to an exchange can be analyzed to identify issues like communication barriers and mismatched expectations that may assist green suppliers to overcome additional, yet to be identified barriers. Second, the essay’s findings may be limited as a function of respondents’ national origins. More specifically, although measures were taken to ensure that an exhaustive list of barriers and enablers was generated (cf. Strauss and Corbin 1998), additional barriers and enablers may have surfaced in interviews with respondents from other countries. Finally, some may question the reliability and internal validity of qualitative methods.

Essay 2

Theoretical Implications

“Green market orientation: perceptions of firm-level environmental-sensitivity” makes a contribution to scholarship by operationalizing a firm’s efforts to operate in a sustainable fashion from the consumer’s perspective using the Churchill (1979) scale development process. The finding is a significant contribution, as prior research efforts to operationalize the construct were undertaken from a manager’s perspective (Baker and Sinkula 2005; Banerjee 2002; Menguc and Ozanne 2006; Stone and Wakefield 2000) and thus were perhaps subject to socially-desirability bias (e.g., managers may prefer to portray their firms’ behaviors in an artificially positive light). The essay also contributes to the growing body of knowledge on green marketing in that it now offers the field a firm-level psychometric latent construct that can be used to test the effects of a green strategy on any number of managerially relevant outcome variables using structural equation or general linear modeling. In addition, the essay contributes to theory by testing the effects of this newly developed scale, which suggests that an environmentally-sensitive firm acts in a sustainable manner, produces environmentally-conscious goods and services, and communicates these efforts to consumers, based on a battery of managerially relevant consumer outcomes. The essay suggests that the adoption of a firm-level green market orientation positively impacts consumers in general. Finally, and perhaps most importantly, the essay’s findings help to bring clarity to the long-standing academic debate surrounding the viability of the enactment of this particular firm-level strategy. Specifically, the results suggest that firms which maintain a green market orientation positively affect consumer satisfaction, perceptions of
the firm’s social responsibility, and a battery of consumer outcomes based on behavioral intentions.

Managerial Implications

Essay 2 contributes to practice, as alluded to above, by providing assurance to managers that the implementation of a firm-level green market orientation benefits the firm. More specifically, the essay’s findings suggest that the adoption of a green market orientation has a positive effect on consumers’ impressions of the firm’s level of social responsibility, satisfaction, and a battery of managerially relevant consumer outcomes (based on behavioral intentions to repurchase [Zeithaml, Berry, and Parasuraman 1996]). Additionally, the essay’s findings indicate that consumer perceptions of a firm’s authenticity moderate the relationship between green market orientation and their satisfaction with the firm. The findings suggest that the effectiveness of this strategy is contingent on consumer perceptions of the firm’s truthfulness with regards to its actions, communications, and offerings.

Limitations and Extensions

Essay 2 does, however, have several limitations that should be considered. First, although the essay’s newly devised green market orientation construct was found to exhibit adequate psychometric properties, and despite the fact that the scale was based on theory, the research model that was used to assess the scale’s nomological validity may be problematic. Specifically, the research model contains an untested and unvalidated construct which may limit the conclusions drawn from the essay. Additionally, the essay’s research model may also contain a scale for corporate social responsibility that does not adequately capture the construct’s entire conceptual domain.

Second, although the sequencing of constructs identified in the essay’s research model finds support in the literature, several plausible alternative models could be developed based on conflicting research findings. For example, a research model could be constructed in which green market orientation is subsumed under a broader CSR construct or the converse (Clemens 2006; Du, Bhattacharya, and Sen 2007; Menguc and Ozanne 2006).
Thirdly, the essay’s research model may have measurement issues. Specifically, although the results suggest that each construct pairing in the model was distinct using the arguably less stringent Anderson and Gerbing’s (1988) test for discriminant validity, the authenticity and communications pairing failed a more stringent discriminant validity test (De Wulf, Odekerken-Schroder, and Iacobucci 2001; Osterhus 1997). In addition, the results from the research model suggested that satisfaction and consumer outcomes had equal average variance extracted values (.70), placing the discriminant validity of the two constructs into doubt. Furthermore, the essay’s research model contained item level reliability issues. In this regard, item level reliabilities were found to be <.70, posing significant challenges for a newly developed scale. Moreover, although efforts were made to guard against the effects of common methods bias and, although a test suggested that the model was more than likely free from these effects, the test used is considered to be substantially weaker than others that could have been employed (Podsakoff, MacKenzie, Lee, and Podsakoff 2003). Finally, although efforts were made to ensure the reliability of the data collection process, students assisted in the essay’s data collection efforts.

Essay 2 also provides a point of departure for numerous research extensions. For example, the essay calls for future explorations that test the effects of the implementation of a firm-level green market orientation on other consumer outcomes. For example, the effects of a green market orientation could be tested on share of wallet, net promoter scores, and the complete behavioral intentions to repurchase scale (cf. Keiningham, Cooil, Andreassen, and Akosy 2007; Shugan and Mitra 2009; Zeithaml, Berry, and Parasuraman 1996). Furthermore, investigations could be conducted on managerially relevant mediating variables such as service quality (cf. Cronin and Taylor 1992). Additionally, the research presented calls for future studies on efforts that test the impact of this newly developed psychometric construct on actual consumption behaviors. The use of scanner and panel data might facilitate a more objective assessment of the effects a green market orientation. Finally, a host of moderating factors (e.g., political party affiliations, special interest group memberships) could be examined. Finally, the essay’s findings encourage segmentation studies which test the differential effects of a firm-level green market orientation.

Essay 3
**Theoretical Implications**

“The effects of an integrated marketing communications campaign highlighting a firm’s environmental consciousness” contributes to the growing green marketing literature base by testing the effects of a green IMC on both consumer attitudes and behaviors. More specifically, Essay 3 uses a novel experimental approach to empirically test the notion that a firm’s green messaging positively impacts consumer impressions of the firm. Second, the essay’s approach to studying the effects of a green IMC on electricity consumption behaviors in a demarking context is the first, to the author’s knowledge, to do so. The essay’s second study may also imply that related behaviors can influence behavioral changes. That is, by engaging consumers in pro-environmental behaviors, firms may be able to “shape” additional pro-environmental behaviors through administering punishments or providing rewards for certain behaviors or through classical conditioning techniques (e.g., the pairing of a neutral and conditioned stimulus to yield a conditioned response) (cf. Foxall 2007). Finally, the essay also contributes by testing two unvalidated, newly devised measures on consumer outcomes.

**Managerial Implications**

Essay 3 provides insights that are relevant to managers. In particular, the essay’s findings suggest that a green IMC may be effective at shaping consumer impressions of the firm. The essay’s findings from a quasi-experimental study indicate that although the deployment of a green IMC may not directly affect behavioral changes, a related pro-environmental factor (e.g., the consumers self-reported recycling behaviors) is associated with actual changes in consumption (e.g., respondents claiming to recycle experienced a statistically smaller rate of change over time in electricity usage when compared with that of self-reported non-recyclers). These findings may assist managers as they develop organizational strategies which optimize the allocation of scarce resources. Specifically, the findings reinforce the notion that green IMCs influence consumer’s attitudes towards a firm. Thus, managers can be more certain that their firms will benefit directly from green announcements. In addition, if a firm is seeking to influence consumers to adopt new green products or practices (e.g., to reduce consumption),
recyclers should be considered a prime target. In this regard, green vendors could place ads on recycling bins, for example.

_limitations and extensions_

Essay 3 features methodological limitations that may call the findings into question. In particular, the study features two newly devised variables (e.g., authenticity and perceived organizational effectiveness) which have not been subjected to a rigorous scale validation process (cf. Clark and Watson 1995). As such, the validity of the measures is suspect. Finally, normed chi-square values generated in the model estimation process exceed recommended thresholds. The shortcoming may indicate a less than adequate model fit and thus limit the research findings contained herein.

Essay 3 calls for future studies to test the effects of a green IMC implementation on other consumption behaviors. Extensions could be conducted on the effects of a green IMC on actual purchases of green goods and services. The research could explore these effects on products and services that have different price elasticities of demand. For example, the effects of a green IMC on the purchase of new refrigerators that are more energy efficient could be conducted. Also, research could be conducted to measure the amount of products that are recycled in light of a green IMC. In particular, a quasi-experiment could be conducted to examine the effects of a green IMC on the change in recycling behavior. Furthermore, additional research could be conducted to explore the impact of other organizational and individual difference variables on both consumer outcomes and actual behaviors. The effects of organizational factors such as the size of the company, its brand image, and its longevity could be tested on purchase intentions and actual purchases. In addition, the effects of individual differences such as political affiliation and socio-economic status could be tested on purchase intentions and actual purchases. The information would allow for a more complete understanding of how these factors impact consumption, as prior research in this area is limited, questionably executed, and oftentimes features conflicting findings.

Concluding remarks
Taken collectively, the results of this dissertation provide qualified support for the viability of a firm-level green marketing strategy. Essay 1 provides insights for managers seeking to develop and distribute green offerings by asking both consumers and organizational respondents to enumerate adoption factors. Essay 2 provides support for the enactment of such a strategy. Essay 3, however, suggests that consumers respond with positive attitudes towards a firm that announces its efforts to “go green,” but fall short of changing actual behaviors. Thus, although the results found herein suggest that a firm’s efforts to protect the environment may improve the firm’s image, the results indicate that such efforts may fall short of invoking behavioral change. Therefore, organizational decision makers should exercise caution and use a careful cost-benefit analysis as the opportunities afforded by the enactment of a green marketing strategy are evaluated.

Finally, the research presented has created more questions than answered. For example, questions still remain as to the comprehensiveness of the adoption factors for organizations and consumers. Additional antecedents to and consequences of the adoption a green market orientation could be explored. The effects of a green IMC on other related consumption behaviors and the effects of different contexts on such behaviors pave the way for future research. Thus, although the current paragraph concludes the dissertation, it marks the beginning of future research on green topics. Such research, however, only represent the tip of the iceberg, as many related new ideas and opportunities were identified during the research process.
## APPENDIX A

### TABLE 2.1: THE PLANET

<table>
<thead>
<tr>
<th>Citation</th>
<th>Type of Study</th>
<th>Sample</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bansal, P. &amp; Roth, K. (2000). Why companies go green: a model of ecological responsiveness. <em>Academy of Management Journal, 43</em>(4), 717-748.</td>
<td>Qualitative/Grounded Theory</td>
<td>53 firms</td>
<td>This article investigates 53 firms, finding that competitiveness, legitimation, and ecological responsibility induce ecological responsiveness. The findings suggest that there are different levels of responsiveness which result from contextual factors, including issue salience, field cohesion, and ecological responsibility.</td>
</tr>
<tr>
<td>Carter, C. R. &amp; Dresner, M. (2001). Purchasing’s role in environmental management: Cross-functional development of grounded theory. <em>Journal of Supply Chain Management, 37</em>(3), 12-27.</td>
<td>Qualitative/Grounded Theory</td>
<td>5 firms and 23 informants</td>
<td>This article examines the drivers and barriers to the implementation of environmental projects. The results suggest that managers consider a project to be successful if it reduced costs, while simultaneously resulting in enhanced environmental performance. However, it should be noted that the authors suggest that managers should look at lifecycle costing (the total cost of ownership) when assessing the success of a given project.</td>
</tr>
<tr>
<td>Russo, M. V. &amp; Harrison, N. S. (2005). Organizational design and environmental performance cues. <em>Academy of Management Journal, 48</em>(4), 582-593.</td>
<td>econometric</td>
<td>169 plants</td>
<td>This article assesses the linkage between plant manager compensation and environmental performance. The results suggest a reverse causal relationship in which organizational characteristics resulted from environmental performance. The findings also</td>
</tr>
</tbody>
</table>
suggest that the firms in their sample were reactive to environmental issues.

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Study Type</th>
<th>Sample Size</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geller, E. S. (1981).</td>
<td>Quasi-experiment</td>
<td>80 consumers</td>
<td>Evaluating energy conservation programs: Is verbal report enough? <em>Journal of Consumer Research, 8</em>, 331-335. This article studies the effects of a workshop on conservation on actual energy conservation practices at home. The results suggest a conflict between actual and self-reported behaviors.</td>
</tr>
</tbody>
</table>
### APPENDIX B

#### TABLE 2.2: PEOPLE

<table>
<thead>
<tr>
<th>Citation</th>
<th>Type of Study</th>
<th>Sample</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balderjahn, I. (1988). Personality variables and environmental attitudes as predictors of ecologically responsible consumption patterns. <em>Journal of Business Research</em>, 17, 51-56.</td>
<td>Structural Equation Modeling/Survey</td>
<td>1,241 consumers</td>
<td>This article considers multiple predictors of environmentally responsible consumption behaviors. In particular, it explores personality variables (such as alienation, emotional expressiveness, and ideological control), attitudes (attitude towards pollution, towards ecologically conscious living) on consumption patterns (home insulation, energy curtailment, environmental concern).</td>
</tr>
<tr>
<td>Kinnear, T. C. &amp; Taylor, J. R. (1973). The effect of ecological concern on brand perceptions. <em>Journal of Marketing Research</em>, 10(2), 191-197.</td>
<td>Multidimensional Scaling/Survey</td>
<td>500 consumers</td>
<td>This article creates a scale for consumer ecological concern, showing that consumers have different cognitive maps with regards to their impressions of detergent brands.</td>
</tr>
<tr>
<td>Downs, P. E. &amp; Freiden, J. P. (1983). Investigating potential market segments for energy conservation strategies. <em>Journal of Public Policy and Marketing</em>, 2, 136-152.</td>
<td>Scale Development/Survey</td>
<td>734 consumers</td>
<td>This study seeks to examine the causes of energy conservation behaviors. Findings suggest that this behavior may be linked to innovation adoption and diffusion behaviors. It also suggests that energy conservation is context dependent.</td>
</tr>
<tr>
<td>Authors</td>
<td>Title</td>
<td>Methodology</td>
<td>Sample Size</td>
</tr>
<tr>
<td>--------------------------</td>
<td>----------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Ramus, C. A. &amp; Steger, U.</td>
<td>The roles of supervisory support behaviors and environmental policy in employee 'eoinitiatives' at leading-edge European companies.</td>
<td>Academy of Management Journal, 43(4), 605-626.</td>
<td>353 employees</td>
</tr>
</tbody>
</table>
### APPENDIX C

#### TABLE 2.3: PROFITS

<table>
<thead>
<tr>
<th>Citation</th>
<th>Type of Study</th>
<th>Sample</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menon, A. &amp; Menon, A. (1997). Enviroprenuerial marketing strategy: The emergence of corporate environmentalism as market strategy. <em>Journal of Marketing, 61</em>(1), 51-67.</td>
<td>Conceptual/Depth Interviews</td>
<td>31 managers</td>
<td>This article uses a political-economic perspective to define and conceptualize a model which combines entrepreneurship and environmental sensitivity in the firm. Rather than viewing ecological issues as threats, the authors suggest that they should be defined as opportunities. Thus, the firm should embark on environmentally beneficial marketing activities with the goal of creating revenues, by providing exchanges that satisfy a firm's economic and social performance objectives.</td>
</tr>
<tr>
<td>Osterhus, T. (1997). Pro-social consumer influence strategies: When and how do they work? <em>Journal of Marketing, 61</em>(4), 16-30.</td>
<td>Structural Equation Modeling/Survey</td>
<td>1,926 consumers</td>
<td>This article examines the effects of pro-social strategies on consumption behaviors. The results suggest that consumer attributions and consumer trust in the source must be activated in order for programs to work. This article operationalizes enviroprenuerial marketing and then studies its effects on new product success and change in market share. The results show that this strategy positively impacts both of these factors.</td>
</tr>
<tr>
<td>Clemens, B. &amp; Douglas, T. J. (2006). Does coercion drive firms to adopt voluntary green initiatives? Relationships among coercion, superior firm resources, and voluntary green initiatives. <em>Journal of Business Research, 59</em>, 483-491.</td>
<td>Hierarchical Regression/survey</td>
<td>107 firms</td>
<td>This research investigates the relationships among external coercion, internal resources, and voluntary green initiatives (VGI.s). The results suggest that coercion is positively related to VGI.s, but that this relationship is dependent on firms’ level of resources that it has focused on environmental strategies.</td>
</tr>
<tr>
<td>Russo, M. V. &amp; Fouts, P. A. (1997). A resource-based perspective on corporate environmental performance and profitability. <em>Academy of Management Journal, 40</em>(3), 534-559.</td>
<td>Econometric</td>
<td>243 firms</td>
<td>This article shows that economic and environmental performance are positively related. It should be noted, however, that this relationship is moderated by industry growth.</td>
</tr>
</tbody>
</table>
APPENDIX D

FIGURE 2.1 SUSTAINABLE MARKETING STRATEGY: WHAT WE KNOW AND WHAT WE NEED TO LEARN

<table>
<thead>
<tr>
<th>What we know</th>
<th>What we need to learn</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Planet</strong></td>
<td></td>
</tr>
<tr>
<td>1. Many firms generally consider the natural environment as they develop their strategic and operating plans.</td>
<td>1. Do some of the challenges that firms face with regard to selling green goods and services apply to other pro-environmental behaviors?</td>
</tr>
<tr>
<td>2. Firms face barriers to their efforts to protect the environment, such as:</td>
<td>2. How do social factors, such as interpersonal or organizational routines, influence pressure on environmental performance?</td>
</tr>
<tr>
<td>a. difficulty attracting customers</td>
<td></td>
</tr>
<tr>
<td>b. internal organizational (e.g., management capabilities) and external (e.g., firms, market factors) factors</td>
<td></td>
</tr>
<tr>
<td>c. network effects</td>
<td></td>
</tr>
<tr>
<td>d. lack of organizational commitment</td>
<td></td>
</tr>
<tr>
<td>e. lack of economic stimulus, such as competitive advantages</td>
<td></td>
</tr>
<tr>
<td>3. Firms have overcome negative impressions of their efforts to protect the environment through:</td>
<td>3. What are the most influential barriers to the adoption of green goods and services?</td>
</tr>
<tr>
<td>a. through the use of alliances, audits, partnerships</td>
<td></td>
</tr>
<tr>
<td>b. through efforts to build credibility</td>
<td></td>
</tr>
<tr>
<td>c. by building environmental quality into offerings</td>
<td></td>
</tr>
<tr>
<td>4. Firms can be categorized by the extent to which they are environmentally-conscious.</td>
<td>4. What role do incentives play when considering the adoption of green goods and services?</td>
</tr>
<tr>
<td><strong>People</strong></td>
<td></td>
</tr>
<tr>
<td>1. Consumers’ demographics and psychographics have been linked to the adoption of new goods and services.</td>
<td>1. Do other variables, such as social factors, influence consumer adoption of green goods and services?</td>
</tr>
<tr>
<td>2. Product labeling and firm alliances influence consumer adoption.</td>
<td>2. Do word-of-mouth from friends help to influence the purchase of green goods and services?</td>
</tr>
<tr>
<td>3. Different ads and different appeals have different effects on consumer purchasing behaviors.</td>
<td>3. Do ads from different sources (e.g., mobile media, social media) have different effects?</td>
</tr>
<tr>
<td>4. Employees, managers, and champions influence firms to adopt an SMS.</td>
<td>4. Do employees and managers have different levels of influence on their firms to go green?</td>
</tr>
<tr>
<td>5. There are mixed results regarding the influence of regulatory bodies that influence supply network partners to adopt an SMS.</td>
<td>5. Additional research is needed to resolve conflicting findings regarding regulatory influences on supply network partner adoption of an SMS.</td>
</tr>
<tr>
<td><strong>Profits</strong></td>
<td></td>
</tr>
<tr>
<td>1. A green-oriented firm is defined as operating in a manner that allows it to provide consumers with needed goods and services, while minimizing its impact on the natural environment.</td>
<td>1. Would a scale that assesses perceptions of a firm’s green orientation from a consumer’s perspective be more useful, given that consumers are the ones making purchasing decisions?</td>
</tr>
<tr>
<td>a. This behavior has been found to be related to profits and market share increases.</td>
<td></td>
</tr>
<tr>
<td>2. The majority of green orientation measures are multidimensional, hierarchical, and reflective scales, that consider the construct from a manager’s viewpoint.</td>
<td>2. The literature shows mixed results with regards to firm profitability from an SMS adoption. This calls for additional research in this area. Methodology should be explored.</td>
</tr>
<tr>
<td>3. Firms adopt SMSs for two main reasons, which are ultimately related to profits:</td>
<td>3. Other advantages that can accrue to firms as a result of an SMS implementation should be explored, given the widespread adoption of these strategies.</td>
</tr>
<tr>
<td>a. ethical (comply with ISO 14000 requirements or to avoid being penalized by environmental regulations)</td>
<td></td>
</tr>
<tr>
<td>b. economic (organizational leader’s personal desire to protect the environment or the prospect of sales and profit increases)</td>
<td></td>
</tr>
</tbody>
</table>

---

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### APPENDIX E

**TABLE 3.1: ORGANIZATIONAL RESPONDENTS, THEIR FIRMS, AND THEIR FIRMS’ CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Pseudo Company Name</th>
<th>Industry</th>
<th>Firm and Market Characteristics</th>
<th>Sales</th>
<th>Employees</th>
<th>Position</th>
<th>Gender</th>
<th>Years with the company</th>
</tr>
</thead>
<tbody>
<tr>
<td>DeliveryCo</td>
<td>Package</td>
<td>A large US based multinational delivery company with a large share of domestic and international markets. DeliveryCo competes domestically against three large competitors and multiple small scale delivery companies in a highly competitive marketplace.</td>
<td>&gt;$25 Billion</td>
<td>&gt;250,000</td>
<td>Sr. Product Manager</td>
<td>Female</td>
<td>twelve years</td>
</tr>
<tr>
<td>SoftwareCo</td>
<td>Software</td>
<td>A large US based software company with a dominant share of the consumer personal computer software market. SoftwareCo is challenged by both established and start-up software companies in an increasingly competitive marketplace.</td>
<td>&gt;$25 Billion</td>
<td>&gt;75,000</td>
<td>Product Marketing Manager</td>
<td>Female</td>
<td>five years</td>
</tr>
<tr>
<td>BankCo</td>
<td>Banking</td>
<td>A large US based full-service banking firm with a sizable share of the domestic banking market. With recent industry consolidation and financial troubles, the industry may see the introduction of new regulations.</td>
<td>&gt;$25 Billion</td>
<td>&gt;200,000</td>
<td>Vice President</td>
<td>Male</td>
<td>ten years</td>
</tr>
<tr>
<td>MultinationalCo</td>
<td>Multiple</td>
<td>A large European based multinational conglomerate with a dominant share of domestic and international markets for three business lines. Flanked by three equally powerful multinational competitors, MultinationalCo faces fierce competition in each of its business lines.</td>
<td>&gt;$25 Billion</td>
<td>&gt;75,000</td>
<td>Pan Global Marketing Manager</td>
<td>Female</td>
<td>eleven years</td>
</tr>
<tr>
<td>Company</td>
<td>Industry</td>
<td>Description</td>
<td>Revenue</td>
<td>Employees</td>
<td>Position</td>
<td>Gender</td>
<td>Experience</td>
</tr>
<tr>
<td>-------------------</td>
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</tr>
<tr>
<td>EduCo</td>
<td>Education</td>
<td>A large US based provider of continuing education and technical training with a sizable share of the domestic market. EduCo competes against traditional four-year educational institutions, community colleges, trade schools, and other companies in its niche (e.g., TechEducationCo).</td>
<td>&gt;$1.5 Billion</td>
<td>&gt;10,000</td>
<td>Admissions Director</td>
<td>Male</td>
<td>nine years</td>
</tr>
<tr>
<td>EntertainCo</td>
<td>Broadcast</td>
<td>A large US based broadcast entertainment company with a large share of domestic and international markets for niche publications and televised content productions. EntertainCo competes against larger US based firms in a highly competitive and fragmented industry challenged by declining advertising revenues.</td>
<td>&gt;$10 Billion</td>
<td>&gt;10,000</td>
<td>Director of Communications</td>
<td>Female</td>
<td>seven years</td>
</tr>
<tr>
<td>PublicationCo</td>
<td>Publisher</td>
<td>A medium sized US based niche publication company with a modest share of the domestic market for niche publications on private organizations and publicly traded firms. PublicationCo competes against larger and more diversified firms in a market challenged by the proliferation of free web-based information and declining advertising revenues.</td>
<td>&gt;$1.5 Billion</td>
<td>&gt;10,000</td>
<td>Marketing and PR Coordinator</td>
<td>Female</td>
<td>three years</td>
</tr>
<tr>
<td>OnlineauctionCo</td>
<td>Internet</td>
<td>A large US based internet auction company with a dominant share of domestic and international markets. OnlineauctionCo faces competition from three equally large on-line diversified service providers.</td>
<td>&gt;$5 Billion</td>
<td>&gt;10,000</td>
<td>Marketing Manager</td>
<td>Female</td>
<td>five years</td>
</tr>
<tr>
<td>Company</td>
<td>Sector</td>
<td>Description</td>
<td>Revenue</td>
<td>Employees</td>
<td>Position</td>
<td>Gender</td>
<td>Experience</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------</td>
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<td>-------------</td>
</tr>
<tr>
<td>Consumer products Co</td>
<td>Consumer Goods</td>
<td>A large US based producer of consumer goods with a dominant share of both domestic and international markets spanning multiple categories. Three equally powerful domestic and international companies have created a competitive marketplace where these firms introduce new products and SKUs as they vie for shelf-space.</td>
<td>&gt;$50</td>
<td>&gt;100,000</td>
<td>Market Research Manager</td>
<td>Female</td>
<td>six years</td>
</tr>
<tr>
<td>Insurance Co</td>
<td>Managed Health Care</td>
<td>A large US based managed health care company with a large share of the domestic market. Insurance Co faces challenges from three large managed health care companies and from pricing pressure in an industry that is heavily regulated. It should also be noted that the industry's viability has recently been challenged by threats of enacting a federally controlled health care system.</td>
<td>&gt;$10</td>
<td>&gt;10,000</td>
<td>Executive Operations Manager</td>
<td>Female</td>
<td>four years</td>
</tr>
<tr>
<td>TechEducation Co</td>
<td>Education</td>
<td>A large US based provider of continuing education and technical training with a sizable share of the domestic market. TechEducation Co competes against traditional four-year educational institutions, community colleges, trade schools, and other companies in its niche (e.g., EduCo).</td>
<td>&gt;$1</td>
<td>&gt;10,000</td>
<td>Director of Marketing</td>
<td>Female</td>
<td>four years</td>
</tr>
<tr>
<td>Banking Co</td>
<td>Banking</td>
<td>A large US based full-service banking firm with a sizable share of the domestic banking market. With recent industry consolidation and financial troubles, the industry may see the introduction of new regulations.</td>
<td>&gt;$25</td>
<td>&gt;200,000</td>
<td>Senior Vice President</td>
<td>Male</td>
<td>twelve years</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Company</th>
<th>Industry</th>
<th>Description</th>
<th>Revenue</th>
<th>Employees</th>
<th>Position</th>
<th>Gender</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>USCo</td>
<td>Multiple</td>
<td>A large US based multinational conglomerate with a dominant share of domestic and international markets in multiple business lines. It faces competition from three equally powerful multinational competitors, including MultinationalCo.</td>
<td>&gt;$25 Billion</td>
<td>&gt;200,000</td>
<td>Brand Manager</td>
<td>Female</td>
<td>thirteen</td>
</tr>
<tr>
<td>HightechCo</td>
<td>High Tech</td>
<td>A medium sized US based high tech company with a modest share of domestic and international markets for electronic imaging products. HightechCo competes against larger and more diversified firms in a market challenged by constant change and rapid product obsolescence.</td>
<td>&gt;$15 Billion</td>
<td>&gt;50,000</td>
<td>Manager of International Trade Compliance</td>
<td>Female</td>
<td>eight</td>
</tr>
<tr>
<td>SportwareCo</td>
<td>Manufacturing</td>
<td>A large US based sports equipment and clothing manufacturing company with a large share of both domestic and international markets. SportwareCo and its five largest competitors are challenged by cost considerations and fluctuating demand.</td>
<td>&gt;$15 Billion</td>
<td>&gt;25,000</td>
<td>Brand Marketing Manager</td>
<td>Male</td>
<td>twelve</td>
</tr>
<tr>
<td>PestCo</td>
<td>Pest Control</td>
<td>A small regionally based pest control company specializing in sustainable treatment methods with a dominant market share in a highly populated southeastern state. PestCo faces intense competition from large national firms which compete based on price.</td>
<td>&gt;$10 Million</td>
<td>&lt;50</td>
<td>Owner/Founder</td>
<td>Male</td>
<td>twenty-one</td>
</tr>
<tr>
<td>AdCO</td>
<td>Media Services</td>
<td>A large US based corporate media services conglomerate with a large share of both domestic and international markets. AdCO competes against large and small media services companies in a specialized and yet competitive</td>
<td>&gt;$15 Billion</td>
<td>&gt;25,000</td>
<td>Director of Research</td>
<td>Female</td>
<td>eleven</td>
</tr>
<tr>
<td>Company</td>
<td>Industry</td>
<td>Description</td>
<td>Revenue</td>
<td>Employees</td>
<td>Role</td>
<td>Gender</td>
<td>Experience</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------</td>
<td>-----------</td>
<td>------------------</td>
<td>---------</td>
<td>------------</td>
</tr>
<tr>
<td>RegionalfinancialCO</td>
<td>Financial Services</td>
<td>A small regionally based financial services company offering a full range of residential and commercial financial and insurance services. RegionalfinancialCO competes against firms at all levels, including national and local financial services firms.</td>
<td>&gt;$20 Million</td>
<td>&lt;50</td>
<td>Vice President</td>
<td>Female</td>
<td>six years</td>
</tr>
<tr>
<td>JobsCO</td>
<td>Employment Services</td>
<td>A large US based non-profit, non-governmental organization with its mission centering on education reform and workplace development. JobsCO competes against other equally worthy non-profit organizations for declining donations from the domestic population.</td>
<td>&gt;$10 Million</td>
<td>&lt;50</td>
<td>Senior Project Manager</td>
<td>Female</td>
<td>twelve years</td>
</tr>
<tr>
<td>EnvironmentalCO</td>
<td>Environmental Consulting</td>
<td>A small regionally based environmental certification, compliance, and validation consulting service. EnvironmentalCO is an agile player in a rapidly growing industry.</td>
<td>&gt;$10 Million</td>
<td>&lt;50</td>
<td>Owner/President</td>
<td>Male</td>
<td>twenty years</td>
</tr>
</tbody>
</table>
### APPENDIX F

**TABLE 3.2: CONSUMER RESPONDENTS, THEIR DEMOGRAPHICS, PRODUCTS USED, AND RATIONALE**

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Sex</th>
<th>Age</th>
<th>Occupation</th>
<th>Name a green good or service that you use</th>
<th>How long have you been using green offerings?</th>
<th>Why do you use green offerings?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent 1</td>
<td>Female</td>
<td>32</td>
<td>Housewife</td>
<td>plastic storage bags</td>
<td>six months</td>
<td>To protect the environment.</td>
</tr>
<tr>
<td>Respondent 2</td>
<td>Female</td>
<td>65</td>
<td>Housewife</td>
<td>recycled plastic bags; paper products</td>
<td>two years</td>
<td>To protect the environment.</td>
</tr>
<tr>
<td>Respondent 3</td>
<td>Female</td>
<td>41</td>
<td>Housewife</td>
<td>reusable shopping bags</td>
<td>six months</td>
<td>Land fills are getting too full.</td>
</tr>
<tr>
<td>Respondent 4</td>
<td>Male</td>
<td>41</td>
<td>Manager</td>
<td>recyclable goods; special light bulbs</td>
<td>eight years</td>
<td>1) It can be affordable, and 2) it protects the environment.</td>
</tr>
<tr>
<td>Respondent 5</td>
<td>Male</td>
<td>40</td>
<td>Food Services Worker</td>
<td>emission controlled motorcycle; special light bulbs</td>
<td>five years</td>
<td>1) It uses less electricity, and 2) reduces air pollution.</td>
</tr>
<tr>
<td>Respondent 6</td>
<td>Female</td>
<td>63</td>
<td>Retired</td>
<td>recyclable goods; special light bulbs</td>
<td>30 years</td>
<td>“Be kind to mother earth and she will be kind to us.”</td>
</tr>
<tr>
<td>Respondent 7</td>
<td>Female</td>
<td>40</td>
<td>Housewife</td>
<td>organic cleaners</td>
<td>four years</td>
<td>“A friend introduced them to me.”</td>
</tr>
<tr>
<td>Respondent 8</td>
<td>Male</td>
<td>32</td>
<td>Entrepreneur</td>
<td>green building materials</td>
<td>five years</td>
<td>“For the safety of my child.”</td>
</tr>
<tr>
<td>Respondent 9</td>
<td>Male</td>
<td>41</td>
<td>Truck Driver</td>
<td>household cleaners</td>
<td>three months</td>
<td>This is a very effective cleaner.</td>
</tr>
<tr>
<td>Respondent 10</td>
<td>Female</td>
<td>48</td>
<td>Vice President</td>
<td>hybrid automobile</td>
<td>two months</td>
<td>“To do my part to reduce emissions and to protect the planet.”</td>
</tr>
<tr>
<td>Respondent 11</td>
<td>Male</td>
<td>52</td>
<td>President</td>
<td>high content recycled paper</td>
<td>ten years</td>
<td>“It is copy paper—half gets throw in the trash, and it makes you feel good.”</td>
</tr>
<tr>
<td>Respondent</td>
<td>Gender</td>
<td>Age</td>
<td>Occupation</td>
<td>Items Recycled</td>
<td>Years of Practice</td>
<td>Reason for Recycling</td>
</tr>
<tr>
<td>------------</td>
<td>--------</td>
<td>-----</td>
<td>---------------------</td>
<td>----------------</td>
<td>-------------------</td>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td>12</td>
<td>Male</td>
<td>32</td>
<td>Vice President</td>
<td>organic foods; household cleaning supplies</td>
<td>two years</td>
<td>“It is good for the environment.”</td>
</tr>
<tr>
<td>13</td>
<td>Male</td>
<td>36</td>
<td>Director</td>
<td>recycles, organic foods, and clothing</td>
<td>fourteen years</td>
<td>“It is convenient and helps the environment.”</td>
</tr>
<tr>
<td>14</td>
<td>Female</td>
<td>52</td>
<td>Housewife</td>
<td>recycles and personal care products</td>
<td>fourteen years</td>
<td>“To protect the environment.”</td>
</tr>
<tr>
<td>15</td>
<td>Male</td>
<td>48</td>
<td>Vice President</td>
<td>household cleaning products</td>
<td>fifteen years</td>
<td>“It’s a really good product and it’s family safe.”</td>
</tr>
<tr>
<td>16</td>
<td>Female</td>
<td>28</td>
<td>Manager</td>
<td>recyclable paper products</td>
<td>two years</td>
<td>“To save the planet.”</td>
</tr>
<tr>
<td>17</td>
<td>Male</td>
<td>50</td>
<td>Director</td>
<td>recyclable containers</td>
<td>three years</td>
<td>“It’s the environmentally responsible thing to do.”</td>
</tr>
<tr>
<td>18</td>
<td>Male</td>
<td>29</td>
<td>Manager</td>
<td>ethanol and low emissions automobile</td>
<td>two years</td>
<td>“To help air quality.”</td>
</tr>
<tr>
<td>19</td>
<td>Male</td>
<td>77</td>
<td>Retired</td>
<td>recyclable containers and soaps</td>
<td>35 years</td>
<td>“To not pollute the water.”</td>
</tr>
<tr>
<td>20</td>
<td>Female</td>
<td>23</td>
<td>Teacher</td>
<td>recyclable paper products</td>
<td>one year</td>
<td>“To teach my students.”</td>
</tr>
</tbody>
</table>
### APPENDIX G

**TABLE 3.3 EXAMPLES OF CODES, SPECIFIC BARRIERS/ENABLERS, AND OVERARCHING BARRIERS/ENABLERS (ORGANIZATIONAL RESPONDENTS)**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Codes</th>
<th>Specific Barriers/Enables</th>
<th>Overarching Barriers/Enablers</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Unwilling to pay price premium. If products were more convenient and accessible.</td>
<td>Price Barriers</td>
<td>Supplier Related Barriers</td>
</tr>
<tr>
<td>3</td>
<td>Need to be convinced of the value of adoption; more information</td>
<td>Place Barriers</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Focus on innovation, product line diversification</td>
<td>Promotion Barriers</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>The nature of their business prevents them from being completely green</td>
<td>Product Barriers</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Inability to change leaders’ and employees’ mindsets.</td>
<td>Characteristic Culture</td>
<td>Intraorganizational Barriers</td>
</tr>
<tr>
<td>7</td>
<td>Cost borne by the firm that may exceed the benefits of adoption.</td>
<td>Costs</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Business customers are calling for more environmentally-friendly inputs for operations</td>
<td>External Pressure</td>
<td>Beneficial for Business</td>
</tr>
<tr>
<td>10</td>
<td>Employee morale increased as the company redirected purchasing efforts towards more environmentally-conscious suppliers</td>
<td>Customer and Employee Perceptions of the Firm</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Technological solutions were suggested to be the key to the cost saving power that green products afford</td>
<td>Profitability</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Promote the financial solvency of green firms.</td>
<td>Support Green Suppliers</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Permitting issues, as regulations governing the release of negative externalities had recently grown more stringent</td>
<td>Forced by Regulations</td>
<td>Government Intervention</td>
</tr>
<tr>
<td>2</td>
<td>Obama administration was focused on funding environmentally-friendly business practices</td>
<td>Encouraged by Incentives</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Social issues were more important to some managers and employees</td>
<td>Organizational ‘Champions’</td>
<td>Organizational and Core Values</td>
</tr>
<tr>
<td>6</td>
<td>Place a higher value on influencing societal consumption patterns and in transforming the environment than on reducing operating costs.</td>
<td>Influence societal consumption</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>An obligation to protect the environment for future generations</td>
<td>Atonement/Protect Future</td>
<td></td>
</tr>
</tbody>
</table>
Generations
**APPENDIX H**

**TABLE 3.4 EXAMPLES OF CODES, SPECIFIC BARRIERS/ENABLERS, AND OVERARCHING BARRIERS/ENABLERS (CONSUMER RESPONDENTS)**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Codes</th>
<th>Specific Barriers/Enablers</th>
<th>Overarching Barriers/Enablers</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>A general lack of faith in the effects of efforts to repair the natural environment. Firms have deliberately chosen to dub their products “green” as a marketing gimmick designed to increase sales to a gullible public.</td>
<td>Apathy</td>
<td>Consumer Characteristic Barriers</td>
</tr>
<tr>
<td>2</td>
<td>Unwilling to sacrifice time or money. Vehicles, such as the Prius, are not visually appealing. When compared with non-sustainable counterparts, green products are limited in terms of quality. Convenience barrier effectively removed green options from consideration sets. Advertising which educates about the benefits lead to the consideration of green offerings. it is to go green given the widespread availability of green alternatives Quality of green goods and services oftentimes exceeded that of non-green options Availability makes adoption easy. Purchasing a hybrid car allowed gasoline usage reduction. Non-invasive cleaners and pesticides were suggested to protect pets from dangers. Socially acceptable behavior amongst his circle of friends.</td>
<td>Skepticism Self-Serving Behaviors aesthetically unappealing inferior quality not widely available Effective advertisers Marketplace offering ubiquity Quality Convenience Basic Needs Safety Needs Esteem Needs Transcendental Needs</td>
<td>Product Barriers Firm Related Enablers Consumer Needs Related Enablers</td>
</tr>
</tbody>
</table>
APPENDIX I
INTERVIEW PROTOCOL

I. Questions asked of Organizational Respondents:

1. Name some of the factors that have enabled your firm to adopt green goods and services.

2. Name some of the factors that have gotten in the way of your firm adopting green goods and services.

3. Name some of the strategies that green goods and service providers could do to overcome these barriers.

II. Questions asked of Consumer Respondents:

1. Name some of the factors that have enabled you to adopt green goods and services.

2. Name some of the factors that have gotten in the way of you adopting green goods and services.

3. Name some of the strategies that green goods and service providers could do to overcome these barriers.
APPENDIX J

FIGURE 3.1 ORGANIZATIONAL BARRIERS TO AND ENABLERS OF THE ADOPTION OF GREEN GOODS AND SERVICES
APPENDIX K

FIGURE 3.2 CONSUMER BARRIERS TO AND ENABLERS OF THE ADOPTION OF GREEN GOODS AND SERVICES
## TABLE 4.1 SAMPLE DEMOGRAPHICS

<table>
<thead>
<tr>
<th></th>
<th>Study 1 Item Generation</th>
<th>Study 2 Item Assessment</th>
<th>Study 3 Nomological Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sample Size (N)</strong></td>
<td>231</td>
<td>283</td>
<td>363</td>
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<td><strong>Sex</strong></td>
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<tr>
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<td>130</td>
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<tr>
<td>Women</td>
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</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
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<tr>
<td>Caucasian</td>
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</tr>
<tr>
<td>Native American</td>
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<td>1</td>
<td>2</td>
</tr>
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<td>Other</td>
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<td>18 to 24</td>
<td>55</td>
<td>89</td>
<td>154</td>
</tr>
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<td>25-31</td>
<td>18</td>
<td>24</td>
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<td>32-38</td>
<td>17</td>
<td>37</td>
<td>19</td>
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<tr>
<td>39-45</td>
<td>21</td>
<td>26</td>
<td>30</td>
</tr>
<tr>
<td>46-52</td>
<td>13</td>
<td>37</td>
<td>84</td>
</tr>
<tr>
<td>53-59</td>
<td>7</td>
<td>49</td>
<td>37</td>
</tr>
<tr>
<td>60-66</td>
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<td>10</td>
<td>16</td>
</tr>
<tr>
<td>67-73</td>
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<tr>
<td>74+</td>
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</tbody>
</table>
APPENDIX M

TABLE 4.2 ROTATED FACTOR PATTERN MATRIX (USING VARIMAX ROTATION)
\( (N = 283) \)

<table>
<thead>
<tr>
<th></th>
<th>factor 1</th>
<th>factor 2</th>
<th>factor 3</th>
<th>factor 4</th>
<th>factor 5</th>
<th>factor 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>v1</td>
<td>0.34</td>
<td>0.65</td>
<td>0.25</td>
<td>0.10</td>
<td>0.09</td>
<td>0.09</td>
</tr>
<tr>
<td>v2</td>
<td>0.08</td>
<td>0.66</td>
<td>0.12</td>
<td>0.04</td>
<td>0.03</td>
<td>0.02</td>
</tr>
<tr>
<td>v3</td>
<td>0.69</td>
<td>-0.10</td>
<td>0.05</td>
<td>0.21</td>
<td>0.07</td>
<td>0.34</td>
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<tr>
<td>v4</td>
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<td>0.64</td>
<td>0.25</td>
<td>0.11</td>
<td>0.07</td>
<td>0.25</td>
</tr>
<tr>
<td>v5</td>
<td>0.17</td>
<td>0.30</td>
<td>0.23</td>
<td>0.16</td>
<td>0.04</td>
<td>0.65</td>
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<tr>
<td>v6</td>
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<td>0.27</td>
<td>0.47</td>
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<td>0.12</td>
</tr>
<tr>
<td>v7</td>
<td>0.69</td>
<td>0.22</td>
<td>0.14</td>
<td>0.26</td>
<td>0.11</td>
<td>-0.19</td>
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<td>v8</td>
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<td>0.19</td>
<td>0.31</td>
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<td>-0.03</td>
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<td>v9</td>
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<td>0.07</td>
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<td>0.23</td>
</tr>
<tr>
<td>v10</td>
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<td>0.35</td>
<td>0.21</td>
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<td>0.04</td>
</tr>
<tr>
<td>v11</td>
<td>0.21</td>
<td>0.54</td>
<td>0.32</td>
<td>0.02</td>
<td>0.31</td>
<td>0.15</td>
</tr>
<tr>
<td>v12</td>
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<td>0.14</td>
<td>0.11</td>
<td>0.02</td>
<td>0.12</td>
<td>0.46</td>
</tr>
<tr>
<td>v13</td>
<td>0.33</td>
<td>0.18</td>
<td>0.21</td>
<td>0.12</td>
<td>0.69</td>
<td>0.11</td>
</tr>
<tr>
<td>v14</td>
<td>0.36</td>
<td>0.13</td>
<td>0.22</td>
<td>0.16</td>
<td>0.76</td>
<td>0.05</td>
</tr>
<tr>
<td>v15</td>
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<td>0.24</td>
<td>0.33</td>
<td>0.31</td>
<td>0.28</td>
<td>-0.08</td>
</tr>
<tr>
<td>v16</td>
<td>0.02</td>
<td>0.18</td>
<td>0.42</td>
<td>0.14</td>
<td>0.25</td>
<td>0.18</td>
</tr>
<tr>
<td>v17</td>
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<td>0.63</td>
<td>0.20</td>
<td>0.04</td>
<td>0.02</td>
<td>0.07</td>
</tr>
<tr>
<td>v18</td>
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<td>0.40</td>
<td>0.43</td>
<td>0.26</td>
<td>0.13</td>
<td>0.25</td>
</tr>
<tr>
<td>v19</td>
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<td>0.46</td>
<td>0.31</td>
<td>0.40</td>
<td>0.11</td>
<td>0.10</td>
</tr>
<tr>
<td>v20</td>
<td>0.53</td>
<td>0.19</td>
<td>0.10</td>
<td>0.37</td>
<td>0.13</td>
<td>0.12</td>
</tr>
<tr>
<td>v21</td>
<td>0.08</td>
<td>0.59</td>
<td>0.30</td>
<td>0.17</td>
<td>0.25</td>
<td>0.07</td>
</tr>
<tr>
<td>v22</td>
<td>0.13</td>
<td>0.31</td>
<td>0.50</td>
<td>0.57</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>v23</td>
<td>0.25</td>
<td>0.53</td>
<td>0.50</td>
<td>0.26</td>
<td>0.07</td>
<td>0.00</td>
</tr>
<tr>
<td>v24</td>
<td>0.28</td>
<td>0.60</td>
<td>0.48</td>
<td>0.24</td>
<td>0.01</td>
<td>0.09</td>
</tr>
<tr>
<td>v25</td>
<td>0.69</td>
<td>0.29</td>
<td>0.03</td>
<td>0.26</td>
<td>0.10</td>
<td>0.04</td>
</tr>
<tr>
<td>v26</td>
<td>0.54</td>
<td>0.37</td>
<td>0.32</td>
<td>0.11</td>
<td>0.17</td>
<td>0.09</td>
</tr>
<tr>
<td>v27</td>
<td>0.60</td>
<td>0.29</td>
<td>0.35</td>
<td>0.10</td>
<td>0.11</td>
<td>0.23</td>
</tr>
<tr>
<td>v28</td>
<td>0.11</td>
<td>0.39</td>
<td>0.63</td>
<td>0.06</td>
<td>0.08</td>
<td>0.04</td>
</tr>
<tr>
<td>v29</td>
<td>0.24</td>
<td>0.17</td>
<td>0.59</td>
<td>0.37</td>
<td>0.14</td>
<td>0.13</td>
</tr>
<tr>
<td>v30</td>
<td>0.38</td>
<td>0.24</td>
<td>0.36</td>
<td>0.14</td>
<td>0.25</td>
<td>0.11</td>
</tr>
<tr>
<td>v31</td>
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<td>0.08</td>
<td>0.02</td>
<td>0.07</td>
<td>0.21</td>
</tr>
<tr>
<td>v32</td>
<td>0.13</td>
<td>0.31</td>
<td>0.61</td>
<td>0.06</td>
<td>0.09</td>
<td>0.12</td>
</tr>
<tr>
<td>v33</td>
<td>0.20</td>
<td>0.22</td>
<td>0.64</td>
<td>0.36</td>
<td>0.09</td>
<td>0.16</td>
</tr>
<tr>
<td>v34</td>
<td>0.65</td>
<td>0.18</td>
<td>0.33</td>
<td>0.06</td>
<td>0.12</td>
<td>0.20</td>
</tr>
<tr>
<td>v35</td>
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<td>0.28</td>
<td>0.10</td>
<td>0.15</td>
<td>0.10</td>
</tr>
<tr>
<td>v36</td>
<td>0.21</td>
<td>0.38</td>
<td>0.59</td>
<td>0.08</td>
<td>0.11</td>
<td>0.15</td>
</tr>
<tr>
<td>v37</td>
<td>0.23</td>
<td>0.32</td>
<td>0.61</td>
<td>0.01</td>
<td>0.23</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Note: This table contains factor loadings derived from an EFA with a Varimax Rotation. Each bold-faced factor loading is > .45 and statistically significant at the .05 level.
### APPENDIX N

**TABLE 4.3 SCALE MEASUREMENT PROPERTIES ($N = 283$)**

<table>
<thead>
<tr>
<th>Scale Items</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standardized Path Loading</th>
<th>t-Values</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Offerings</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This company offers products that are environmentally friendly.</td>
<td>3.99</td>
<td>1.03</td>
<td>0.85</td>
<td>25.4</td>
</tr>
<tr>
<td>This company offers ‘green’ products.</td>
<td>3.88</td>
<td>1.06</td>
<td>0.87</td>
<td>26.4</td>
</tr>
<tr>
<td>This company's products are environmentally sound.</td>
<td>3.90</td>
<td>1.03</td>
<td>0.89</td>
<td>27.8</td>
</tr>
<tr>
<td>This company has the environment in mind when choosing products to sell.</td>
<td>3.78</td>
<td>1.07</td>
<td>0.87</td>
<td>***</td>
</tr>
<tr>
<td><strong>Actions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This company's practices are environmentally friendly.</td>
<td>4.01</td>
<td>1.01</td>
<td>0.87</td>
<td>27.0</td>
</tr>
<tr>
<td>This company is concerned with conserving resources.</td>
<td>4.08</td>
<td>1.11</td>
<td>0.87</td>
<td>24.8</td>
</tr>
<tr>
<td>This company is working to make the world a cleaner place.</td>
<td>3.97</td>
<td>1.10</td>
<td>0.92</td>
<td>30.3</td>
</tr>
<tr>
<td>This company wastes very few resources.</td>
<td>3.89</td>
<td>1.02</td>
<td>0.81</td>
<td>23.6</td>
</tr>
<tr>
<td>This company is attempting to reduce its impact on the environment.</td>
<td>4.02</td>
<td>1.11</td>
<td>0.87</td>
<td>***</td>
</tr>
<tr>
<td><strong>Communications</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This company tries to educate the public about the environment.</td>
<td>3.61</td>
<td>1.14</td>
<td>0.85</td>
<td>32.2</td>
</tr>
<tr>
<td>This company encourages its customers to protect the environment.</td>
<td>3.82</td>
<td>1.22</td>
<td>0.92</td>
<td>42.9</td>
</tr>
<tr>
<td>This company promotes environmental awareness.</td>
<td>3.79</td>
<td>1.17</td>
<td>0.96</td>
<td>51.2</td>
</tr>
<tr>
<td>This company promotes environmental practices.</td>
<td>3.83</td>
<td>1.17</td>
<td>0.96</td>
<td>***</td>
</tr>
</tbody>
</table>

Note: All parameter estimates were significant at the $p < .005$ level.
APPENDIX O

TABLE 4.4 SCALE STATISTICS ($N = 363$)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Offerings</td>
<td>0.94</td>
<td>0.20</td>
<td>0.30</td>
<td>0.00</td>
<td>0.24</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>2. Actions</td>
<td>0.45</td>
<td>0.91</td>
<td>0.56</td>
<td>0.00</td>
<td>0.45</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>3. Communications</td>
<td>0.55</td>
<td>0.75</td>
<td>0.96</td>
<td>0.00</td>
<td>0.69</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>4. Corporate Altruism</td>
<td>0.06</td>
<td>0.06</td>
<td>0.02</td>
<td>0.94</td>
<td>0.01</td>
<td>0.45</td>
<td>0.35</td>
</tr>
<tr>
<td>5. Authenticity</td>
<td>0.49</td>
<td>0.67</td>
<td>0.83</td>
<td>0.12</td>
<td>0.87</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>6. Satisfaction</td>
<td>0.15</td>
<td>0.00</td>
<td>-0.02</td>
<td>0.67</td>
<td>0.03</td>
<td>0.96</td>
<td>0.70</td>
</tr>
<tr>
<td>7. Consumer Outcomes</td>
<td>0.14</td>
<td>-0.02</td>
<td>0.01</td>
<td>0.59</td>
<td>0.04</td>
<td>0.84</td>
<td>0.92</td>
</tr>
</tbody>
</table>

Note: Intercorrelations are presented in the lower triangle of the matrix. Construct reliabilities for each scale are depicted in boldface on the diagonal. Shared variances in percentages are given in the upper triangle of the matrix. All construct intercorrelations are significant at the $p < .005$ level.
### APPENDIX P

#### TABLE 4.5 SUMMARY MEASUREMENT RESULTS (N = 363)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Average Variances Extracted</th>
<th>Parameter Estimates</th>
<th>t-Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Offerings</td>
<td>4.47</td>
<td>1.13</td>
<td>79%</td>
<td>.84 -.92</td>
<td>22.5 - 27.3</td>
</tr>
<tr>
<td>2. Actions</td>
<td>4.45</td>
<td>1.00</td>
<td>68%</td>
<td>.67 -.86</td>
<td>14.4 - 21.1</td>
</tr>
<tr>
<td>3. Communications</td>
<td>4.00</td>
<td>1.22</td>
<td>85%</td>
<td>.88 -.95</td>
<td>26.9 - 28.9</td>
</tr>
<tr>
<td>4. Corporate Altruism</td>
<td>4.39</td>
<td>0.85</td>
<td>76%</td>
<td>.82 -.93</td>
<td>20.3 - 26.0</td>
</tr>
<tr>
<td>5. Authenticity</td>
<td>5.63</td>
<td>0.80</td>
<td>57%</td>
<td>.66 -.78</td>
<td>12.2 - 15.2</td>
</tr>
<tr>
<td>6. Satisfaction</td>
<td>5.80</td>
<td>1.01</td>
<td>88%</td>
<td>.86 -.99</td>
<td>28.7 - 58.0</td>
</tr>
<tr>
<td>7. Consumer Outcomes</td>
<td>4.89</td>
<td>1.28</td>
<td>70%</td>
<td>.70 -.94</td>
<td>15.0 - 23.4</td>
</tr>
</tbody>
</table>

Note: N = 363, χ² = 994.77, df = 413, CFI = .99, TLI = .98, and RMSEA = .062. All parameter estimates were significant at the p < .01 level.
### APPENDIX Q

**TABLE 4.6 MODERATION ANALYSIS RESULTS \(N = 363\)**

<table>
<thead>
<tr>
<th>Paths</th>
<th>GMO → CA</th>
<th>GMO → SAT</th>
<th>GMO → CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constrained Path (\chi^2)</td>
<td>1298.6</td>
<td>1298.6</td>
<td>1298.6</td>
</tr>
<tr>
<td>(df)</td>
<td>595</td>
<td>595</td>
<td>595</td>
</tr>
<tr>
<td>Unconstrained Path (\chi^2)</td>
<td>1296.3</td>
<td>1288.7</td>
<td>1298.0</td>
</tr>
<tr>
<td>(df)</td>
<td>594</td>
<td>594</td>
<td>594</td>
</tr>
<tr>
<td>(\chi^2) Difference</td>
<td>2.3</td>
<td>9.9</td>
<td>0.6</td>
</tr>
<tr>
<td>(df) Difference</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Significance Level</td>
<td>NS</td>
<td>.001*</td>
<td>NS</td>
</tr>
</tbody>
</table>

Note: * \(p < .001\) level. NS = nonsignificant path estimate. GMO = Green Market Orientation; CA = Corporate Altruism; SAT = Satisfaction; CO = Consumer Outcomes.
APPENDIX R

TABLE 4.7 GREEN MARKET ORIENTED COMPANIES (N = 363)

<table>
<thead>
<tr>
<th>Company</th>
<th>Frequency</th>
<th>Industry</th>
<th>Presence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publix</td>
<td>40</td>
<td>Retail Trade</td>
<td>Regional</td>
</tr>
<tr>
<td>Starbucks</td>
<td>13</td>
<td>Retail Trade</td>
<td>International</td>
</tr>
<tr>
<td>Whole Foods</td>
<td>11</td>
<td>Retail Trade</td>
<td>International</td>
</tr>
<tr>
<td>Honda</td>
<td>10</td>
<td>Manufacturing</td>
<td>International</td>
</tr>
<tr>
<td>GE</td>
<td>7</td>
<td>Manufacturing</td>
<td>International</td>
</tr>
<tr>
<td>Johnson &amp; Johnson</td>
<td>6</td>
<td>Manufacturing</td>
<td>International</td>
</tr>
<tr>
<td>Toyota</td>
<td>6</td>
<td>Manufacturing</td>
<td>International</td>
</tr>
<tr>
<td>Zephyrhills</td>
<td>6</td>
<td>Manufacturing</td>
<td>National</td>
</tr>
<tr>
<td>S C Johnson</td>
<td>5</td>
<td>Manufacturing</td>
<td>International</td>
</tr>
<tr>
<td>City of Tallahassee</td>
<td>4</td>
<td>Utilities</td>
<td>Regional</td>
</tr>
<tr>
<td>Home Depot</td>
<td>4</td>
<td>Retail Trade</td>
<td>International</td>
</tr>
<tr>
<td>Method Cleaning Products</td>
<td>4</td>
<td>Manufacturing</td>
<td>International</td>
</tr>
<tr>
<td>Subaru</td>
<td>4</td>
<td>Manufacturing</td>
<td>International</td>
</tr>
<tr>
<td>Wal*Mart</td>
<td>4</td>
<td>Retail Trade</td>
<td>International</td>
</tr>
<tr>
<td>Apple</td>
<td>3</td>
<td>Manufacturing</td>
<td>International</td>
</tr>
<tr>
<td>Aveda</td>
<td>3</td>
<td>Manufacturing</td>
<td>International</td>
</tr>
<tr>
<td>Kashi</td>
<td>3</td>
<td>Manufacturing</td>
<td>National</td>
</tr>
<tr>
<td>New Leaf Market</td>
<td>3</td>
<td>Retail Trade</td>
<td>National</td>
</tr>
<tr>
<td>Waste Management</td>
<td>3</td>
<td>Administrative and</td>
<td>National</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Support and Waste</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Management and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Remediation Services</td>
<td></td>
</tr>
<tr>
<td>Ben and Jerry’s Ice Cream</td>
<td>2</td>
<td>Manufacturing</td>
<td>International</td>
</tr>
<tr>
<td>Dupont</td>
<td>2</td>
<td>Manufacturing</td>
<td>International</td>
</tr>
</tbody>
</table>

Note: This list represents the most frequently cited companies that consumers perceived of as “green.”
APPENDIX S

FIGURE 4.1 THE MODERATED IMPACT OF A FIRM-LEVEL GREEN ORIENTATION ON CORPORATE ALTRUISM, SATISFACTION, AND CONSUMER OUTCOMES
APPENDIX T

GREEN MARKET ORIENTATION INITIAL SCALE ITEMS

1. This company’s practices are environmentally friendly.
2. This company is attempting to limit its “carbon footprint.”
3. This company offers organic products.
4. This company is concerned with conserving resources.
5. This company encourages recycling.
6. This company promotes environmental practices in ads.
7. This company offers products that are environmentally friendly.
8. This company uses alternative energy sources.
9. This company’s sells products made from natural ingredients.
10. This company is working to make the world a cleaner place.
11. This company wastes very few resources.
12. This company uses recyclable packaging.
13. This company will forgo profits to protect the environment.
14. This company is more concerned about a clean environment than with profits.
15. This company has the environment in mind when choosing products to sell.
16. This company supports environmental cleanup projects.
17. This company is attempting to reduce its impact on the environment.
18. This company supports environmental causes.
19. This company assists consumers in being more environmentally responsible.
20. This company is attempting to reduce its energy consumption.
21. This company tries to educate the public about the environment.
22. This company tries to protect the environment.
23. This company is environmentally conscious.
24. This company offers “green” products.
25. This company is “green.”
26. This company’s products are environmentally sound.
27. This company is concerned with its impact on future generations.
28. This company encourages its customers to protect the environment.
29. This company’s products do not damage the environment.
30. This company offers products that are “all natural.”
31. This company is concerned about its environmental impact on the local community.
32. This company promotes environmental awareness.
33. This company uses ecofriendly materials in its products.
34. This company is concerned about conservation.
35. This company protects the eco-system.
36. This company acts in a sustainable manner.
37. This company is environmentally friendly.
APPENDIX U

GREEN MARKET ORIENTATION FINAL SCALE ITEMS AND SUBDIMENSIONS

Offerings

This company offers products that are environmentally friendly.
This company offers ‘green’ products.
This company’s products are environmentally sound.
This company has the environment in mind when choosing products to sell.

Actions

This company's practices are environmentally friendly.
This company is concerned with conserving resources.
This company is working to make the world a cleaner place.
This company wastes very few resources.
This company is attempting to reduce its impact on the environment.

Communications

This company tries to educate the public about the environment.
This company encourages its customers to protect the environment.
This company promotes environmental awareness.
This company promotes environmental practices.
APPENDIX V

GREEN MARKET ORIENTATION NOMOLOGICAL VALIDITY STUDY: SCALE ITEMS

Green Market Orientation (see Appendix U)

Satisfaction (adapted from Oliver 1980)

1. I am satisfied with the service/goods I receive from this company.
2. I am happy with the service/goods I receive from this company.
3. I am delighted with the service/goods I receive from this company.

Consumer Outcomes (Based on Zeithaml, Berry, and Parasuraman [1996]
Behavioral Intentions to Repurchase)

1. I would classify myself as a loyal customer of this company.
2. If asked, I would say good things about their company.
3. I would recommend this company to a friend.
4. My usage of this company has been high.
5. I would continue to do business with this company if its prices increase somewhat.

Corporate Altruism (Based on Lichtenstein, Drumwright, and Braig's [2004]
Corporate Social Responsibility)

1. This company is committed to using a portion of its profits to help nonprofits.
2. This company gives back to the communities in which it does business.
3. Local nonprofits benefit from this company's contributions.
4. This company integrates charitable contributions into its business activities.
5. This company is involved in corporate giving.

Authenticity

1. This company is genuine.
2. This company has been true to its roots.
3. This company stands behind its products.
4. This company is not an “imitator”.
5. This company seems honest.
## APPENDIX W

### TABLE 5.1 SAMPLE DEMOGRAPHICS

<table>
<thead>
<tr>
<th>Sample Size (N)</th>
<th>Study 1 Attitudes</th>
<th>Study 2 Behaviors</th>
<th>Study 3 Antecedents to Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>52</td>
<td>339</td>
<td>339</td>
</tr>
</tbody>
</table>

**Sex**

- Men: 23, 142, 142
- Women: 29, 196, 196
- Not reported: 0, 1, 1

**Race**

- Caucasian: 38, 289, 289
- African-American: 3, 13, 13
- Hispanic: 8, 25, 25
- Asian-American: 1, 1, 1
- Native American: 1, 1, 1
- Other: 1, 10, 10

**Age**

- 18 to 24: 51, 80, 80
- 25-31: 1, 17, 17
- 32-38: 0, 13, 13
- 39-45: 0, 34, 34
- 46-52: 0, 90, 90
- 53-59: 0, 52, 52
- 60-66: 0, 23, 23
- 67-73: 0, 15, 15
- 74+: 0, 15, 15
### APPENDIX X

#### TABLE 5.2 SUMMARY MEASUREMENT RESULTS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Average Variances Extracted</th>
<th>Parameter Estimates</th>
<th>t-Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Authenticity</td>
<td>4.47</td>
<td>1.20</td>
<td>64%</td>
<td>.75 - .79</td>
<td>6.4 - 6.9</td>
</tr>
<tr>
<td>2. Market Orientation</td>
<td>4.47</td>
<td>0.96</td>
<td>69%</td>
<td>.74 - .86</td>
<td>6.3 - 8.1</td>
</tr>
<tr>
<td>3. Trust</td>
<td>4.49</td>
<td>1.07</td>
<td>79%</td>
<td>.79 - .94</td>
<td>7.2 - 12.7</td>
</tr>
<tr>
<td>4. Service Quality</td>
<td>4.20</td>
<td>0.75</td>
<td>80%</td>
<td>.83 - .94</td>
<td>21.0 - 21.3</td>
</tr>
</tbody>
</table>

Table 5.2 Continued

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Average Variances Extracted</th>
<th>Parameter Estimates</th>
<th>t-Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Perceived Organizational Effectiveness</td>
<td>4.50</td>
<td>1.20</td>
<td>81%</td>
<td>.66 - .98</td>
<td>6.0 - 16.5</td>
</tr>
</tbody>
</table>

Notes: $N = 52$, $\chi^2 = 436.723$, 220 degrees of freedom, CFI = .95, TLI = .94, and RMSEA = .13.
## APPENDIX Y

### TABLE 5.3 SCALE STATISTICS

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Authenticity</td>
<td>0.88</td>
<td>0.49</td>
<td>0.48</td>
<td>0.13</td>
<td>0.28</td>
</tr>
<tr>
<td>2. Market Orientation</td>
<td>0.70</td>
<td>0.90</td>
<td>0.50</td>
<td>0.42</td>
<td>0.43</td>
</tr>
<tr>
<td>3. Trust</td>
<td>0.70</td>
<td>0.71</td>
<td><strong>0.92</strong></td>
<td>0.48</td>
<td>0.57</td>
</tr>
<tr>
<td>4. Service Quality</td>
<td>0.36</td>
<td>0.65</td>
<td>0.69</td>
<td><strong>0.95</strong></td>
<td>0.34</td>
</tr>
<tr>
<td>5. Perceived Organizational Effectiveness</td>
<td>0.53</td>
<td>0.65</td>
<td>0.76</td>
<td>0.58</td>
<td><strong>0.95</strong></td>
</tr>
</tbody>
</table>

Notes: Intercorrelations are presented in the lower triangle of the matrix. Construct reliabilities for each scale are depicted in boldface on the diagonal. Shared variances in percentages are given in the upper triangle of the matrix.
APPENDIX Z

TABLE 5.4 EXPERIMENTAL RESULTS (N = 52)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Treatment (N = 26)</th>
<th>Control (N = 26)</th>
<th>t-value</th>
<th>df</th>
<th>Sig.</th>
<th>Effect Size</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Authenticity</td>
<td>4.84</td>
<td>4.10</td>
<td>2.32</td>
<td>50</td>
<td>0.02</td>
<td>0.31</td>
<td>0.75</td>
</tr>
<tr>
<td>2. Market Orientation</td>
<td>4.88</td>
<td>4.04</td>
<td>3.46</td>
<td>50</td>
<td>0.00</td>
<td>0.44</td>
<td>0.84</td>
</tr>
<tr>
<td>3. Trust</td>
<td>4.99</td>
<td>3.99</td>
<td>3.81</td>
<td>50</td>
<td>0.00</td>
<td>0.47</td>
<td>1.00</td>
</tr>
<tr>
<td>4. Service Quality</td>
<td>4.40</td>
<td>3.94</td>
<td>2.24</td>
<td>50</td>
<td>0.03</td>
<td>0.30</td>
<td>0.45</td>
</tr>
<tr>
<td>5. Perceived Organizational Effectiveness</td>
<td>5.46</td>
<td>3.55</td>
<td>9.53</td>
<td>50</td>
<td>0.00</td>
<td>0.80</td>
<td>1.91</td>
</tr>
</tbody>
</table>

Note: All constructs are statistically significant at the p < .05 level.
## APPENDIX AA

### TABLE 5.5 QUASI-EXPERIMENTAL REPEATED-MEASURES MIXED-SUBJECTS ANOVA (N = 339)

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Usage Variable</th>
<th>Usage X Program</th>
<th>Usage X Recall</th>
<th>Usage X Purchase</th>
<th>Usage X Recycle</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Δ Usage</td>
<td>8.66**</td>
<td>0.027</td>
<td>0.885</td>
<td>0.003</td>
<td>0.587</td>
</tr>
</tbody>
</table>

Note: $\eta^2 = \text{partial eta squared}$

*p < .05, **p < .005.
APPENDIX BB

TABLE 5.6 CELL MEANS AND COUNTS \( (N = 339) \)

<table>
<thead>
<tr>
<th>Program</th>
<th>No Program</th>
<th>Recall</th>
<th>No Recall</th>
<th>Recycle</th>
<th>No Recycle</th>
<th>Purchase</th>
<th>No Purchase</th>
</tr>
</thead>
<tbody>
<tr>
<td>( t_1 )</td>
<td>1995.86</td>
<td>1792.42</td>
<td>2255.39</td>
<td>1740.53</td>
<td>1864.91</td>
<td>1920.91</td>
<td>2032.08</td>
</tr>
<tr>
<td>( t_2 )</td>
<td>2095.59</td>
<td>1985.81</td>
<td>2444.37</td>
<td>1850.82</td>
<td>1940.03</td>
<td>2273.01</td>
<td>2185.69</td>
</tr>
<tr>
<td>( N )</td>
<td>187</td>
<td>122</td>
<td>87</td>
<td>249</td>
<td>266</td>
<td>70</td>
<td>197</td>
</tr>
</tbody>
</table>

Note: \( t_1 \) = average electricity usage in kilowatt hours in timeperiod one.  
\( t_2 \) = average electricity usage in kilowatt hours in time period two.  
\( N \) = cell counts for each time period by response to one of four quasi-independent measures.
APPENDIX CC

TABLE 5.7 SUMMARY MEASUREMENT RESULTS (N = 339)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Average Variances Extracted</th>
<th>Parameter Estimates</th>
<th>t-Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organizational Effectiveness</td>
<td>4.26</td>
<td>0.72</td>
<td>64%</td>
<td>.62 - .88</td>
<td>12.6 - 22.8</td>
</tr>
<tr>
<td>2. Authenticity</td>
<td>5.16</td>
<td>1.05</td>
<td>73%</td>
<td>.81 - .89</td>
<td>14.4 - 21.1</td>
</tr>
<tr>
<td>3. Trust</td>
<td>4.62</td>
<td>1.05</td>
<td>66%</td>
<td>.63 - .91</td>
<td>12.8 - 13.1</td>
</tr>
<tr>
<td>4. Environmental Concern</td>
<td>4.89</td>
<td>1.10</td>
<td>67%</td>
<td>.58 - .92</td>
<td>11.6 - 21.3</td>
</tr>
<tr>
<td>5. Consumer Outcomes</td>
<td>4.72</td>
<td>0.90</td>
<td>65%</td>
<td>.65 - .94</td>
<td>10.9 - 14.8</td>
</tr>
<tr>
<td>6. Environmental Knowledge</td>
<td>4.55</td>
<td>0.91</td>
<td>47%</td>
<td>.86 - .99</td>
<td>7.6 - 11.1</td>
</tr>
</tbody>
</table>

Notes: n = 339, \( \chi^2 = 437.10 \), df = 217, CFI = .99, TLI = .99, and RMSEA = .055.
APPENDIX DD

TABLE 5.8 SCALE STATISTICS (N = 339)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organizational Effectiveness</td>
<td><strong>0.90</strong></td>
<td>0.20</td>
<td>0.30</td>
<td>0.00</td>
<td>0.24</td>
<td>0.03</td>
</tr>
<tr>
<td>2. Authenticity</td>
<td>0.45</td>
<td><strong>0.93</strong></td>
<td>0.56</td>
<td>0.00</td>
<td>0.45</td>
<td>0.00</td>
</tr>
<tr>
<td>3. Trust</td>
<td>0.55</td>
<td>0.75</td>
<td><strong>0.85</strong></td>
<td>0.00</td>
<td>0.69</td>
<td>0.00</td>
</tr>
<tr>
<td>4. Environmental Concern</td>
<td>0.06</td>
<td>0.06</td>
<td>0.01</td>
<td><strong>0.86</strong></td>
<td>0.01</td>
<td>0.41</td>
</tr>
<tr>
<td>5. Consumer Outcomes</td>
<td>0.49</td>
<td>0.67</td>
<td>0.83</td>
<td>0.12</td>
<td><strong>0.88</strong></td>
<td>0.00</td>
</tr>
<tr>
<td>6. Environmental Knowledge</td>
<td>0.16</td>
<td>0.00</td>
<td>0.00</td>
<td>0.64</td>
<td>0.04</td>
<td><strong>0.72</strong></td>
</tr>
</tbody>
</table>

Notes: Intercorrelations are presented in the lower triangle of the matrix. Construct reliabilities for each scale are depicted in boldface on the diagonal. Shared variances in percentages are given in the upper triangle of the matrix.
### TABLE 5.9 PATH MODEL RESULTS ($N = 339$)

<table>
<thead>
<tr>
<th>Hypothesized Paths</th>
<th>Completely Standardized Coefficients</th>
<th>$t$-value</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Organizational Effectiveness $\rightarrow$ Authenticity</td>
<td>0.48*</td>
<td>8.76</td>
<td>23%</td>
</tr>
<tr>
<td>Perceived Organizational Effectiveness $\rightarrow$ Trust</td>
<td>0.58*</td>
<td>8.67</td>
<td>34%</td>
</tr>
<tr>
<td>Authenticity $\rightarrow$ Consumer Outcomes</td>
<td>0.21*</td>
<td>4.91</td>
<td>68%</td>
</tr>
<tr>
<td>Trust $\rightarrow$ Consumer Outcomes</td>
<td>0.73*</td>
<td>8.99</td>
<td></td>
</tr>
<tr>
<td>Environmental Knowledge $\rightarrow$ Environmental Concern</td>
<td>0.64*</td>
<td>9.59</td>
<td>41%</td>
</tr>
<tr>
<td>Environmental Concern $\rightarrow$ Consumer Outcomes</td>
<td>0.14**</td>
<td>2.54</td>
<td></td>
</tr>
<tr>
<td>Environmental Knowledge $\rightarrow$ Consumer Outcomes</td>
<td>-0.07</td>
<td>-1.10</td>
<td></td>
</tr>
</tbody>
</table>

Notes: $N = 363$, $\chi^2 = 585.97$, $df = 224$, CFI = .99, TLI = .98, and RMSEA = .069. * $p<.005$; ** $p<.01$. 

APPENDIX EE
FIGURE 5.1 THE EFFECTS OF RECYCLING BEHAVIORS ON ELECTRIC CONSUMPTION OVER TIME
FIGURE 5.2 A MODEL OF THE VARIABLES IMPACTING CONSUMER OUTCOMES TOWARDS A FIRM WITH A “GREEN” IMC
APPENDIX HH

FIGURE 5.3 AN ALTERNATIVE MODEL OF THE VARIABLES IMPACTING CONSUMER OUTCOMES TOWARDS A FIRM WITH A “GREEN” IMC
APPENDIX II

STUDY ONE TREATMENT GROUP STIMULI (BILLING STATEMENT)

City Utility Company
1250 Main Street
City, State 100000
Phone: (111) 555-0100
Fax: (111) 555-0101

Visit our website at www.www.www for tips on how to protect the environment by using CUC smart metering.

Statement
Statement #: 1000
Date: December 31, 2008
Customer ID: Enter customer ID

<table>
<thead>
<tr>
<th>Electric</th>
<th>Gas</th>
<th>Water</th>
<th>Amount</th>
<th>Payment</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>175 KWH</td>
<td>5 Units</td>
<td>12 CSAL</td>
<td>$125.41</td>
<td></td>
<td>125.41</td>
</tr>
</tbody>
</table>

Total | $ 125.41

REMITTANCE
Customer Name: Customer
Customer ID: 1265-0076
Statement #: 1000
Date: December 31, 2008
Amount Due: $125.41
Amount Enclosed: 
APPENDIX JJ

STUDY ONE TREATMENT GROUP STIMULI (ENVELOPE)
APPENDIX KK

STUDY ONE TREATMENT GROUP STIMULI (INSERT)
APPENDIX LL

STUDY ONE CONTROL GROUP STIMULI (BILLING STATEMENT)

City Utility Company
1234 Main Street
City, State 100000
Phone: (111) 555-0190
Fax: (111) 555-0191

Statement
Statement #: 1000
Bill To: Customer
Date: December 31, 2008
Customer ID: Enter customer ID

<table>
<thead>
<tr>
<th>Electric</th>
<th>Gas</th>
<th>Water</th>
<th>Amount</th>
<th>Payment</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>175 KWH</td>
<td>5 Units</td>
<td>12 CGAL</td>
<td>$125.41</td>
<td>$125.41</td>
<td></td>
</tr>
</tbody>
</table>

Total $125.41

REMITTANCE
Customer Name: Customer
Customer ID: 1234-0076
Statement #: 1000
Date: December 31, 2008
Amount Due: $125.41
Amount Enclosed:
APPENDIX MM

STUDY ONE CONTROL GROUP STIMULI (ENVELOPE)

City Utilities Company
1250 Main Street
City, State 10000

Customer
1250 Street Way
City, State 10000
APPENDIX NN

STUDY ONE SURVEY ITEMS

Authenticity (Cronin and Ramirez working paper)
1. This company is genuine.
2. This company has been true to its roots.
3. This company stands behind its products.
4. This company is not an “imitator”.
5. This company seems honest.

Market Orientation (adapted from Kholi and Jaworski 1990)
1. This company understands customers’ needs better than its competitors do.
2. This company creates value for customers.
3. This company responds to customer requests.
4. This company responds more rapidly to competitors’ actions than their competitors.
5. They understand their industry.

Trust (adapted from Morgan and Hunt 1994)
1. This company cannot be trusted at times. (reverse coded)
2. This company can be counted on to do what’s right.
3. This company has high integrity.

Service quality (Parasuraman, Zeithaml, and Berry 1988)
1. Their employees offer the personal attention I need from them.
2. The behavior of their employees instills confidence in me.
3. Their employees are courteous.
4. I receive enough individual attention from their employees.
5. I can depend on receiving prompt service from their employees.

Perceived Organizational Effectiveness (newly developed)
1. This company’s actions help reduce the harm done to the environment.
2. This company’s practices pollution controlling measures.
3. This company truly is concerned about the environment.
4. This company is more concerned about sustainability issues than its competitors.
5. One of this company’s main goals is to fix the environmental problem.
APPENDIX OO

STUDY TWO ANCOVA RESULTS

As alluded to in Essay 3, two 2 (monthly electric consumption in kilowatt hours) X 2 (participant supplied quasi-experimental, behavioral factors) repeated-measures, mixed-subjects ANCOVAs were conducted using each behavioral factor, with change in electricity usage over time serving as the dependent measure (Bergh 1995; Field and Hole 2003). Since the sample was drawn from different geographic regions with wide ranging temperature differences and since temperatures tend to fluctuate on an annual basis, ordinal and interval-level temperature based covariates were developed to partial out such effects. In particular, the United States Department of Agriculture Plant Hardiness Zone Map was used to create an ordinal-level temperature covariate using the temperate zone from which the participant responded (cf. http://www.usna.usda.gov/Hardzone/hzm-se1.html) (See Table A.1). In addition, a covariate was developed to assess the effects of annual changes in temperature with data harvested from the National Oceanic and Atmospheric Administration website (http://www.noaa.gov/) (See Table A.1). This measure was created by taking the average temperature in each location in the last period (October 2009), divided by the difference between the last (October 2009) and first (October 2008) periods in which the data were collected. Finally, an additional step was taken to ensure that temperature differences, either across the sample or over time, did not confound the results. Specifically, each vector of usage variables was normalized by dividing usage by the average temperature found in each month. These temperature adjusted variables were then used to estimate repeated-measures, mixed-subjects ANOVAs for each behavioral factor (See Table A.1).

Table A.1 Respondent Cities, frequency of city, USDA temperate zone, and average daily temperatures in October 2009 and October 2008

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The results from each ANCOVA and adjusted ANOVA suggested that observed changes in usage were robust to temperature fluctuations and regional temperature differences. Specifically, each covariate was non-significant and the findings from the temperature adjusted repeated-measures, mixed-subjects ANOVAs matched those found in an analysis that examined kilowatt/hours usage. In particular, the ANCOVA using temperate zone as an ordinal-level covariate for each quasi-independent factor (e.g., program \([F(1, 306) = 1.983, p = .160]\), recall
[F(1, 333) = 1.539, p = .216], **recycle** [F(1, 333) = 1.443, p = .231], and **purchase** [F(1, 329) = 1.826, p = .178]) was non-significant. In addition, the ANCOVA using a temperate adjusted interval-level covariate for each quasi-independent factor (e.g., **program** [F(1, 305) = 0.114, p = .736], **recall** [F(1, 332) = 0.087, p = .769], **recycle** [F(1, 332) = 0.023, p = .879], and **purchase** [F(1, 328) = 0.160, p = .689]) was non-significant. Finally, the ANOVA using temperate adjusted quasi-independent factors suggested the same pattern as the unadjusted ANOVAs found in Essay 3 (e.g., **program** [F(1, 307) = 0.899, p = .334], **recall** [F(1, 334) = 0.627, p = .429], **recycle** [F(1, 334) = 6.369, p < .01], and **purchase** [F(1, 330) = 0.220, p = .640]). Thus, these analyses suggest that the results from the ANOVAs found in Essay 3 are not confounded by temperature fluctuations and regional temperature differences.
APPENDIX PP

STUDY THREE SURVEY ITEMS

Perceived Organizational Effectiveness (newly developed)
1. This company’s actions help reduce the harm done to the environment.
2. This company’s practices pollution controlling measures.
3. This company truly is concerned about the environment.
4. This company is more concerned about sustainability issues than its competitors.
5. One of this company’s main goals is to fix the environmental problem.

Authenticity (Cronin and Ramirez working paper)
1. This company is genuine.
2. This company has been true to its roots.
3. This company stands behind its products.
4. This company is not an “imitator”.
5. This company seems honest.

Trust (adapted from Morgan and Hunt 1994)
1. This company cannot be trusted at times. (reverse coded)
2. This company can be counted on to do what’s right.
3. This company has high integrity.

Environmental Knowledge (adapted from Maloney, Ward, and Braucht 1975)
1. Plastic bags take hundreds of years to decompose and cause serious health problems.
2. Most of the lead found in the atmosphere comes from automobiles.
3. I am interested in reading Consumer Report articles on green products.
4. I always read green product’s labeling and consider its ingredients.

Environmental Concern (adapted from Maloney, Ward, and Braucht 1975)
1. I become incensed when I think about the harm being done to life by pollution.
2. When I think of ways industries are polluting I get frustrated and angry.
3. I feel people worry too much about pesticides on food products. (reverse coded)
4. The whole pollution issue is overrated. (reverse coded)

Consumer Outcomes (adapted from Zeithaml, Berry, and Parasuraman 1996)
1. I would classify myself as a loyal customer of this company.
2. If asked, I would say good things about their company.
3. I would recommend this company to a friend.
4. My usage of this company has been high.
5. I would continue to do business with this company if its prices increase somewhat.
6. If I could do business with another utility company, I would. (reverse coded)
Office of the Vice President For Research  
Human Subjects Committee  
Tallahassee, Florida 32306-2742  
(850) 644-8673  FAX (850) 644-4392  

APPROVAL MEMORANDUM  

Date: 2/2/2010  
To: Edward Ramirez  
Address: Marketing Department, Rovetta Business Building, Room 126 D  
Dept.: COLLEGE OF BUSINESS  

From: Thomas L. Jacobson, Chair  

Re: Use of Human Subjects in Research  
Barriers to and Enablers of the Adoption of "Green" Offerings  

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Expedited per 45 CFR § 46.110(7) and has been approved by an expedited review process.  

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 2/1/2011 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: J Cronin, Advisor
HSC No. 2009.3218
APPENDIX RR
HUMAN SUBJECTS APPROVAL FORM FOR ESSAY 2

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

APPROVAL MEMORANDUM

Date: 2/5/2010

To: Edward Ramirez

Address: Marketing Department, Rovetta Business Building, Room 126 D
Dept.: COLLEGE OF BUSINESS

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research
Green Marketing Orientation: Perceptions of Firm Environmental Sensitivity

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Expedited per 45 CFR § 46.110(7) and has been approved by an expedited review process.

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 2/3/2011 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: J Cronin, Advisor
HSC No. 2009.3220
APPENDIX SS

HUMAN SUBJECTS APPROVAL FORM FOR ESSAY 3

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

APPROVAL MEMORANDUM

Date: 2/5/2010

To: Edward Ramirez

Address: Marketing Department, Rovetta Business Building, Room 126 D
Dept.: COLLEGE OF BUSINESS

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research
The effects of an environmentally conscious Integrated Marketing Campaign on consumption patterns: A quasi-experiment

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Expedited per 45 CFR § 46.110(7) and has been approved by an expedited review process.

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 2/3/2011 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: J Cronin, Advisor
HSC No. 2010.3222
REFERENCES


Handfield, Robert, Steven V. Walton, Robert Sroufe, and Steven A. Melnyk (2002), "Applying environmental criteria to supplier assessment: A study in the application of the Analytical


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Trudel, Remi and June Cotte (2009), "Does it pay to be good?" *Sloan Management Review*, Vol. 50, No. 2, pp. 61-68.


Edward “Ed” Ramirez was born in Miami, Florida on May 16, 1969. He received his Bachelor of Arts degree in Liberal Arts with a Psychology major from the University of Tennessee in 1993. He also earned a Master of Science degree in International Affairs with a concentration in International Political Economy (with distinction) from the Florida State University in 1998. In addition, Ed earned a Master of Business Administration in general management (with distinction) from California State University at Dominguez Hills in 2003.

With more than 22 years of experience in the services industry, Ed has served as a crew member, team leader, trainer, account executive, manager, regional business consultant, vice president of franchise development, vice president of sales and marketing, and co-founder of a restaurant franchising company. He has worked for companies such as Burger King, Arby’s, O’Charley’s, MCI, PepsiCo, Chick-fil-A, Moe’s Southwest Grill, and Famous Yardbird. During his doctoral studies, Ed had the honor of serving as an officer for KPMG’s PhD Project Marketing Doctoral Students’ Association for three years, where he served as secretary, vice president, and president.


Ed’s research centers on green marketing, services marketing, and sales. His research has been published in the *Journal of Marketing Theory and Practice* and in conference proceedings. Ed was awarded a Doctor of Philosophy degree in Marketing from Florida State University in May of 2010. He accepted a position as an Assistant Professor of Marketing at the University of Texas at El Paso.

In his spare time, Ed enjoys weightlifting, hiking, camping, biking, kayaking, motorcycle riding, snorkeling, traveling, and reading. He subscribes to Booker T. Washington’s philosophy that a person’s “success is to be measured not so much by the position that one has reached in life as by the obstacles which he has had to overcome while trying to succeed.”