EIGHTEENTH ANNUAL

ROBERT MITTELSTAEDT DOCTORAL SYMPOSIUM

PROCEEDINGS

April 2 – 4, 2009

Doctoral Research in Marketing

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ACKNOWLEDGEMENT

The Marketing Department would like to thank the Dean Cynthia Milligan and the Dean's Office in the College of Business Administration for the partial financial support for this symposium. We also thank Michelle Jacobs for all of her assistance in organizing the symposium.

ROBERT MITTELSTAEDT DOCTORAL SYMPOSIUM

Dr. Robert Mittelstaedt retired on August 31, 2002, after 29 years of contributions to the University of Nebraska-Lincoln, College of Business Administration, Marketing Department and our graduate program.

Doctoral students share a common link to Bob. He was more than a fine educator, scholar, and academic citizen. He was also their mentor, friend, counselor, and supporter. He motivated them with his insights, kindness, and countless stories. He stimulated their ideas, made them smile, and warmed their spirits. In addition, Bob and Venita opened their home and hearts to many doctoral students and gave them many forms of moral support. Bob dedicated his career to doctoral education and has served as a role model to both doctoral students and junior faculty.

Bob also introduced macromarketing theory and issues to doctoral students and inspired them, for over 40 years. He has been more than a fine educator and scholar. His insights, seminars, and dedication to the Journal of Macromarketing and Macromarketing Conferences motivated their investigations of important issues in the field, presentations at the Conferences, and publications in JMM.

Despite being retired, Bob was lured back to the department for the 2004 and 2005 fall semesters to teach doctoral seminars.

At the time of Bob’s retirement, the faculty in the Department of Marketing decided to rename the Nebraska Doctoral Symposium to the Robert Mittelstaedt Doctoral Symposium in honor of Bob’s accomplishments at the University of Nebraska–Lincoln.
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PROGRAM

18TH ANNUAL
ROBERT MITTELSTAEDT DOCTORAL SYMPOSIUM
DOCTORAL RESEARCH IN MARKETING
APRIL 2 – 4, 2009

THURSDAY, APRIL 2 – AFTERNOON

Guests check in at the Embassy Suites, 1040 P Street, (402) 474-1111

THURSDAY, APRIL 2 – EVENING (DRESS CASUALLY)

7:15
Meet in lobby of Embassy Suites for ride to cocktail party

7:30 - 10:00
Cocktail Party
Ron & Dee Hampton home, 3201 Crestridge Road
Finger-foods will be served

FRIDAY, APRIL 3 – MORNING (DRESS PROFESSIONALLY)

Breakfast available for guests staying at the Embassy Suites

FRIDAY’S PROGRAM WILL BE HELD AT THE LIED CENTER JOHNNY CARSON THEATER,
301 N. 12 ST. (BUILDING ACROSS THE STREET TO THE NORTH OF EMBASSY SUITES)

8:45 – 9:00
Welcome
Dr. Jim Gentry, Mittelstaedt Doctoral Symposium Coordinator
Dean Cynthia H. Milligan, College of Business Administration

9:00 – 9:30
Donald Lund, University of Missouri
“Dynamic Effects of Service Performance and Targeted Advertising on
Revenue Expansion: Role of On-Site and Remote Service Delivery”

9:30 – 9:40
Discussant: Zelin Zhang, University of Kansas

9:40 – 9:50
General Discussion
9:50 – 10:00  Break

10:00 – 10:30  Mike Krush, University of Nebraska–Lincoln
“The Dispersion of Marketing Capabilities and Its Impact on Marketing
Strategy Execution and Business Unit Performance”

10:30 – 10:40  Discussant: Hyo Jin (Jean) Jeon, University of Oklahoma

10:40 – 10:50  General Discussion

10:50 – 11:00  Break

11:00 – 11:30  Jungyeon Sung, SungKyunKwan University
“Effects of Tactile Sense on Brand Attitude”

11:30 – 11:40  Discussant: Garrett Coble, Oklahoma State University

11:40 – 11:50  General Discussion

11:50 – 1:00  Lunch at the Embassy Suites

**FRIDAY, APRIL 3 – AFTERNOON**

1:00 – 1:30  Rand Wergin, Oklahoma State University
“The Frugal and the Environmentally Concerned: Who Are They, What
Do They Want, and How Do You Influence Them?”

1:30 – 1:40  Discussant: Steven J. Andrews, University of Oregon

1:40 – 1:50  General Discussion

1:50 – 2:00  Break

2:00 – 2:30  Ivan Lapuka, University of Oklahoma/University of South Florida
“Antecedents and Consequences of Channel Alienation: An Empirical
Investigation within Franchised Channels of Distribution”

2:30 – 2:40  Discussant: Jie Gao, University of Nebraska–Lincoln

2:40 – 2:50  General Discussion

2:50 – 3:00  Break
3:00 – 3:30  Derick Davis, University of Colorado at Boulder
“You Can’t Put a Price on Love: Taboo Trade-Offs and the Spend Thrifty Pursuit of Sacredly Represented”

3:30 – 3:40  Discussant: Shannon Cummins, University of Nebraska–Lincoln

3:40 – 3:50  General Discussion

3:50 – 4:00  Break

4:00 – 4:30  Pronobesh Banerjee, University of Kansas
“Prototype or Exemplar? Effect of Self Construal on Brand Extension Evaluation in a Multi Product Brand Context”

4:30 – 4:40  Discussant: Chris Hinsch, University of Missouri

4:40 – 4:50  General Discussion

**Friday, April 3 – Evening (dress casually)**

6:30 – 9:00  Evening Reception and Banquet, Embassy Suites
6:30 - Cocktails
7:00 - Banquet

9:00 – late  On your own

**Saturday, April 4 – Morning (dress professionally)**

Breakfast available for guests staying at the Embassy Suites

**Saturday’s program will be held at the Embassy Suites Convention Center, 1040 P St.**

9:00 – 9:30  Alka Subramanian, Executive Director, Power of Love
“Micro Finance in the HIV/AIDS Environment”

9:30 – 9:50  General Discussion

9:50 – 10:00  Break
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April 2 - 4, 2009

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Managing revenue expansion over time through marketing strategies is a fundamental challenge for modern service and retail organizations and a long-standing problem of interest in marketing research (Bitner 1992; Bolton et al. 2006; Bolton et al. 2008; Rust et al. 2004; Rust and Chung 2006; Rust et al. 1995; Zeithaml 2000; Zeithaml and Parasuraman 2004). Sales, or revenue growth, are foundational components of stock, market and accounting firm valuation and, importantly, a common performance measure for both public and private service organizations. While theory points to key roles of both advertising and service performance in driving sales revenue, empirical analyses of advertising has remained largely isolated from research on the impact of service delivery on consumer purchase behavior. Further, extant research has not offered, or empirically tested, an integrated conceptual framework focusing on the joint effects of advertising and service performance over time. This is evidenced by recent calls for research on how the “elements of a coordinated marketing strategy influence the purchase behavior of different segments over time and how… this affect(s) the firm’s revenue stream” (Rust et al. 2004, p. 78). Importantly, these authors further raise the question of which type of expenditures have a greater influence on the value of a firm’s base - a new advertising campaign or improvements in the quality of service?

In this paper, we respond to the above calls for research by conceptualizing and empirically investigating the joint effects of targeted advertising and service performance on revenue expansion as a function of service delivery channels. The following three gaps in the literature motivate this research. First, linking actual service process elements to financial outcomes is critical to gaining a better understanding of the return to investments in service quality, such as service performance (Rust et al. 2002; Rust et al. 1995). Yet, the preponderance of empirical evidence regarding the relationship between service quality and financial returns is based on perceptual measures or indices of service quality such as customer perceived service quality, loyalty and satisfaction (for exception see Bolton et al. 2008; Kamakura et al. 2002). No empirical tests of the return to specific, managerially-actionable operations measures of service over time could be found in the academic literature.

Second, while understanding the dynamic interplay between service performance and advertising effectiveness is of great interest to both managers and academics, even with conceptual interactive advertising models being suggested in the advertising literature (e.g. Smith and Swinyard 1982; Vakratsas and Ambler 1999), none have been empirically tested. Further, the extant literature has not conceptually addressed the potential interaction of advertising and service performance or specifically modeled the longitudinal effect of their interplay. Nearly a decade has passed since Zeithaml (2000) outlined several research questions involving investments in service quality, which to this day largely remain unanswered, such as “…Are expenditures on advertising or service
quality itself more effective?, … What service variables are drivers of financial performance…?” and how do they work together? Consistent with this view, we adopt a strategic focus (Soteriou and Zenios 1999) by developing and testing a conceptual model which identifies key relationships and investigates the dynamic reinforcement or tradeoff effects of service performance and advertising to provide new insights relevant for marketing management and strategic resource allocation.

Third, emerging literature in marketing points to the critical role of the customer-organization interface as the current frontier for developing a competitive advantage in service organizations (Marinova et al. 2008; Rayport and Jaworski 2004). Considering the burgeoning literature on service delivery channels (Thomas and Sullivan 2005), we are motivated by the perspective that the dynamic interplay of service performance and advertising and its effect on revenue expansion over time critically depends on the type of service delivery channel chosen by the consumer. Recently, Rust and Chung (2006) raise the question of what is the mechanism which allows the translation of advertising and service quality into sales revenue in different channels. To our knowledge this issue remains a gap in the literature.

This research attempts to fill these gaps in the literature by conceptualizing and empirically studying the dynamic interplay of service performance and advertising on sales revenue over time across on-site and remote service delivery channels. Specifically, we conduct a longitudinal field study which enables us to study the dynamic impact of service process measures and advertising investments on revenue expansion in 5 retail service organizations utilizing two distinct service delivery channels over 223 weeks (1115 observations). This study contributes to the literature by identifying conditions for the differential financial consequences of service performance over time and provides managerial guidelines for the simultaneous use of service quality process inputs and targeted advertising over time.

The rest of the paper is organized as follows. We first present the conceptual framework and develop hypotheses for the joint effects of service performance and advertising in remote and on-site service delivery channels depicted in Figure 1. Next we present the method and the empirical testing, followed by results and discussion of implications for research and marketing practice.
CONCEPTUAL FRAMEWORK
Dynamic Impact of Service Performance on Revenue Expansion

Customers’ perceptions of service quality have been shown to be important determinants of intent to repurchase (Keaveney 1995), loyalty (Zeithaml et al. 1996), and satisfaction (Taylor 2002), however empirical evidence of the dynamic impact of service performance on financial performance is lacking (Rust et al. 2004; Rust et al. 1995).

We define service performance as the objective operational outcome of the service quality process and initiatives by the firm. Numerous service providers keep track of objective measures of service performance, examples include “on-time flight percentages” by airlines, real time delivery tracking by UPS and FedEx, and tracking complaint resolution time by customer service departments. Further, the academic “return on quality” literature suggests that operational investments in service quality can be accounted for by assessing the financial impact of service performance improvements, and comparing the net change in the cost of service and the additional revenues or market value that is created (Rust and Zaborik 1993; Rust et al. 1995). More recently, Bolton et al. (2008) propose and find that operations measures of the service delivery process, namely service resolution time, explain business customers’ actual decisions to “upgrade” their service contract and expand the relationship with the service provider, providing support to our decision to focus on service performance. The services literature in general is replete with subjective measures of performance (customer intentions, loyalty, satisfaction, etc.) as the dependent variable of interest. This approach has been instrumental to theory development, but it is also limiting in assessing the dynamic and
longitudinal interplay of service quality investments with other marketing instruments and is not highly actionable by managers. This is because accurate longitudinal information on how well service quality initiatives are being translated into performance outcomes is necessary but cannot be feasibly and pragmatically collected through consumer surveys. Further, since it is necessary to regularly administer time consuming and costly surveys to ascertain consumer service quality perceptions, it is practically impossible for managers to make timely decisions to optimize their daily service quality efforts.

The “service profit chain” literature (Heskett et al. 1994; Kamakura et al. 2002) provides further support for the dynamic relationship between service performance and financial outcomes. Heskett et al. (1994) indicates that superior service quality leads to enhanced customer perceptions which in turn lead to improved behavioral intentions culminating in increased financial performance. Further, Bolton and Lemon (1999) suggest that in a Bayesian process, consumers update their attitudes and impressions of service providers based on the actual service experience. These attitudes then impact future purchase decisions. While these approaches suggest that service quality will lead to financial outcomes, only one article was found which directly relates service quality with firm sales. Nelson et al. (1992) examined the effects of patient perceptions of service quality on hospital financial performance. As prior research on service quality suggests a link between service quality perceptions and firm financial outcomes (revenue, profits, market share, etc.), we extend this to the dynamic procedural link between the firm and the consumer: the effortful outcomes of service quality initiatives by the firm and the dynamic consumer response to service performance. Thus, we offer the following hypothesis:

H1: Service performance will have a positive effect on revenue expansion over time.

The Joint Dynamic Effects of Service Performance and Targeted Advertising on Revenue Expansion

Service providers often use television, radio and print advertisements to communicate marketing messages to potential and existing customers. The effectiveness of these different advertising vehicles in market building versus revenue expansion differ (Dertouzos and Garber 2006; Montgomery and Silk 1972). Advertising messages to the general public (TV, Radio, etc.) are typically used to develop the market, or expand the existing customer base. Alternatively, service providers often target specific segments of customers or individual customers with a personalized message to improve the effectiveness of the advertising (Iyer et al. 2005). Motivated by ROI impact and accountability, a growing trend across service industries is to increasingly rely on targeted segment or individual-specific advertising and a significant shift away from mass advertising (Chang 2009; Kesmodel 2008; Steel 2008). In this paper, we follow prior research (Bayus and Mehta 1995; De Wulf et al. 2001; Iyer et al. 2005) and current trends in the industry by focusing on targeted advertising, i.e. customer-tailored advertising sent directly to existing customers in efforts to increase purchase frequency or quantity.
A long stream of research in marketing supports the role of targeted advertising as a driver of revenue (Assmus et al. 1984; Little 1979; Tellis 1988). It has also been suggested that advertising is increasingly more effective at maintaining market share than at increasing revenues (Iyer et al. 2005; Lodish et al. 1995a; Lodish et al. 1995b). This possible decline in the ability of advertising to increase purchase frequency has been attributed to the plethora of competitive choices that confronts consumers as they make purchase decisions (Schwartz 2004). Consistent with the literature on competitive advertising interference, as the number of advertisements a given consumer encounters continues to increase, consumers pay a decreasing amount of attention to any given advertisement (Unnava and Sirdeshmukh 1994). Importantly, extant research recognizes that past experience and existing perceptions about a brand can influence the consumer’s response to a given advertisement (Vakratsas and Ambler 1999). Luo and Homburg (2007) found that marketing communications were more efficient when delivered to customers who were more satisfied, suggesting an interaction between customer satisfaction and response to marketing communications. Similarly, research has studied the impact of synergy (or interactions) between advertising and latent constructs including loyalty (Raj 1982; Tellis 1988), brand familiarity (Campbell et al. 2003) and existing brand preference (D’Souza and Rao 1995). As numerous authors have shown, failing to include the interactive effects of marketing variables can lead to model misspecification and sub-optimal allocation of marketing investments (Mantrala 2002; Naik and Raman 2003). However, no prior research has investigated how service performance impacts consumer response to advertising communications over time.

Support for this interaction comes from work in both service marketing and consumer information processing. Overall, contemporary models of advertising processing acknowledge that prior experience with a product or service can influence consumer response to future communication efforts (Ehrenberg 1974; Smith and Swinyard 1983; Vakratsas and Ambler 1999). Since individuals have limited capacity to process new information, decisions about which advertising message to consider are based on the accessibility of stored information in memory (Lynch et al. 1988). In a highly competitive market, consumers encounter numerous advertisements daily (Schwartz 2004), causing them to restrict cognitive processing to only those ads which are salient. In a review of academic work on marketing communications, Stewart and Kamins (2006) find that loyal customers, with prior purchase experience, pay more attention to marketing communications than do new customers with no past experience. Additional evidence exists that as the level of consumer involvement increases, there is an increased likelihood of systematic processing of advertisements for that product or service (Bloemer and de Ruyter 1999). Thus, in addition to a positive direct effect of advertising on revenue, we expect an interactive effect of targeted advertising and service performance over time.

**H2:** Service performance will moderate the effectiveness of targeted advertising over time.

Next, we investigate the role of the service delivery channel in determining the direction of this moderating effect under different conditions.
**Service Delivery Channels**

Service providers are continuing to utilize new or innovative service delivery channels to reach their customers. Healthcare providers have begun to offer consultations over the phone and online as alternatives to traditional office visits. Banks commonly offer both online account management and conventional face-to-face transactions with their clients. Blockbuster video has a very successful online ordering system for video rentals, while continuing to offer the more customary bricks and mortar store fronts. As a result, customers are increasingly interacting with service providers through multiple and idiosyncratic service delivery channels. This growing trend of multichannel service marketing (Rangaswamy and Van Bruggen 2005; Thomas and Sullivan 2005) is fueled by diverse organizational objectives such as improving customer relationships and increasing service effectiveness or efficiency. While the existence of alternative modes of service delivery has been acknowledged in the literature, the financial performance and customer relationship management implications of serving customers through multiple, distinct channels has not been investigated.

We reason that important distinctions between alternative service delivery channels are the amount and quality of direct or face-to-face interaction with the organizational frontlines and the physical environment of the service delivery. Drawing from supporting research in services marketing (Bitner 1992; Meuter et al. 2005), we assert that these fundamental differences can be a basis for a differential dynamic joint impact of marketing variables (targeted advertising and service performance) on revenue expansion across service delivery channels. In particular, we reason that the underlying cognitive and affective involvement of customers during the service delivery shapes the joint effect of advertising and service performance on unit revenue (cf., Smith and Swinyard 1983; Vakratsas and Ambler 1999). To our knowledge, no research has studied the financial impact of service performance and its distinct interplay with targeted advertising of firms deploying a multichannel service strategy. In particular we focus on the difference between on-site service delivery and remote service delivery.

**On-Site Service Delivery**

On-site service delivery is defined as a service transaction taking place within the confines of an existing service provider establishment. In terms of the examples discussed above, on-site delivery includes going into a bricks and mortar store to rent a video from Blockbuster, talking to a teller inside a bank lobby or visiting a doctor in her office for a consultation. Critical advantages of on-site delivery include a well-designed service environment, direct face-to-face interaction with front line employees (FLE) who are often working in a supervised environment, and immediate accessibility of management. Prior research has shown that FLEs have a critical impact on customer relationship and financial performance outcomes (Marinova et al. 2008) which is consistent with the notion that the “moment of truth” occurs at the customer interface (Bitner et al. 1998). On-site service delivery provides a better opportunity (compared to remote delivery) for the translation of relationship and marketing mix variables through additional possibilities to interact with or engage the customer. Building on research in service marketing and consumer information processing (Chaiken 1980; Petty et al. 1983), we suggest that on-site service delivery promotes higher customer involvement
which allows synergistic, mutually reinforcing effects of service performance and targeted advertising on revenue. Higher customer involvement is fostered by the nature of physical environment and face-to-face interactions at frontline interfaces characteristic of on-site service delivery.

In support of this, Bitner (1992) argues that servicescapes, the physical surrounding of the service location, critically influence the amount and quality of FLE-customer interactions, customer perceptions of service quality, and potentially subsequent performance outcomes. In recent practice, retail establishments like McDonalds (Gogoi et al. 2006) and Domino’s Pizza’s (Domino's Pizza Image 2000 initiative, cf. Anonymous 2002) underwent store re-imaging campaigns to enhance the way their service delivery environment affects consumer response. These programs called for substantial investments in aesthetic design changes at the service delivery interface ($300,000-400,000 per store for McDonalds), making it a more appealing experience for the consumer. While service providers continue to make investments in improving their service settings as they seek to boost revenue and financial returns, the magnitude and mechanism of impact of such financial investments together with other elements of the marketing mix are not well understood.

Conceptual frameworks in service marketing suggest that the potential richness of FLE-customer interaction, enhanced by the appeal of the service delivery interface, has both affective (emotional states of general arousal) and cognitive consequences. For example, Bitner (1992) notes that perceptions of servicescapes and associated affect (arousal) lead to positive feelings towards the organization and its actions, such as advertising. This suggests that positive experience with service performance would enhance the positive effect of targeted advertising on customers. Furthermore, Berry (1995) describes three distinct levels of relationship marketing initiatives and proposes that addressing customers by name, providing continuity of service through dedicated FLE communications with the customer through multiple means, and augmenting the core service through customization, all can help to increase customer involvement.

Higher degrees of involvement should increase the positive influence of service performance on consumer response to targeted advertising as past research has also shown that involvement increases consumer cognitive attention to future communications. Models of consumer information processing suggest that high involvement is associated with central (Petty et al. 1983) or systematic (Chaiken 1980) rather than peripheral or heuristic information processing. This indicates that customers engaged in service delivery through a more involving channel are more likely to systematically process available information, such as service performance and targeted advertising. Similarly, Bitner (1992) notes that high involvement indicators, such as customer arousal triggered at the frontline interface are generally associated with “approach” behavior and bear subsequent impact on purchase decisions. In contrast, low involvement situations suggest heuristic processing of information, paying attention to salient, readily available or “peripheral” cues of marketing communications and interactions. Though empirical evidence is lacking, there are some suggestive studies involving conceptually similar phenomena. For instance, Shankar, Smith and
Rangaswamy (2003) find that while satisfaction levels are unaffected by the channel (online or offline) environment, customer loyalty was higher when the more involving channel was chosen, implying the role of intervening channel-specific or channel-customer specific factors. Additionally, these authors find that the positive relationship between loyalty and satisfaction is increased when the channel induces higher levels of involvement. In turn, Bloemer and de Ruyter (1999) ascertain that positive emotions moderate the relationship between satisfaction and loyalty (positively) in high involvement service settings. Overall, we hypothesize that:

\[ \text{H3a: Service performance will positively moderate the effectiveness of targeted advertising over time when the service is delivered on-site.} \]

**Remote Service Delivery**

Remote service delivery is defined as the delivery of a service offering at a physical location not owned, or fully controlled by the firm. Examples include remote consultations with the healthcare industry either online or over the phone, delivery to the customer’s mailbox of rental videos by Blockbuster, and banking online. These interactions typically offer increased levels of convenience for the customer as they no longer have to worry about restrictive business hours, nor do they need to travel to the business location. The added value to the consumer, often economic in nature, comes at a cost to the service provider: a reduced opportunity or scope of direct interaction with its customers. This decreased interaction may not always be a negative aspect of remote service delivery, as Rust et al. (2002) point out that a cost reduction emphasis focuses on efficiency in a firm’s processes. Increasing efficiency can definitely benefit the firm, however an important question is: At what cost?

If the remote service delivery involves little to no direct interaction with the customer, the relationship being built is based more on economic incentives as a level one (Berry 1995) relationship marketing effort. As Berry (1995) explains, economic incentives do little to offer sustained competitive advantage due to the ease of imitation and because they attract customers who are prone to switching providers to take advantage of discounts or promotions (Ailawadi et al. 2006; Gupta 1988). Berry goes on to explain that level one marketing has a much shorter term focus than level two or three marketing efforts. Given reduced opportunities for relationship building efforts based on face-to-face interactions with the organization’s frontline and a lack of dynamic reinforcement over time when service is delivered remotely, it is expected that customer involvement will be low. Whereas, Bloemer and de Ruyter (1999) found that positive emotions bolstered the relationship between satisfaction and loyalty in high involvement service settings, they found no evidence for this moderation in low involvement settings. This suggests that when service is delivered through low involvement channels, service performance will not enhance consumer response to targeted advertising.

We argue that under low relational involvement marketing communications such as targeted advertising act as a substitute without fostering synergies with service performance. Further evidence for this argument exists in the advertising clutter literature (Brown and Rothschild 1993; Burke and Srull 1988; Rotfeld 2006). Considering the
limited ability and desire of consumers to process the plethora of persuasive messages, as service quality increases, the effect of targeted advertising on sales is likely to diminish when high involvement relational exchange has not been forged and dynamically maintained with the customer. This proposition extends Lodish (1995b) by identifying conditions when advertising plays less of a revenue expansion role and leads to the following hypothesis:

H3b: Service performance will negatively moderate the effectiveness of targeted advertising over time when the service is delivered remotely.

METHOD

Research Setting

We selected the pizza industry as the setting for this research for several reasons. First, this is a highly competitive industry where heavy investments in service performance and targeted advertising are prevalent. Second, the utilization of distinct service delivery channels, on-site (in store) and remote (in home), is an established management practice in this industry. On-site service delivery typically involves the customer directly interacting with customer service representatives during both the ordering and service delivery process. There is often a wait for the customer in the carefully designed customer service lobby which is in close proximity (directly opposite a glass window) from the production area. On-site customers are able to experience the entire service delivery process including ordering from visually appealing menus, witnessing the hand-made pizza production, smelling their own pizza cooking, interacting with friendly FLE’s, and feeling the steaming heat escaping the pizza box on their way back home.

On the other hand, remote service delivery typically involves contact with a customer service representative over the phone, lacking the sensual stimuli and personal contact described above. Remote customers receive their order from a polite, but hurried delivery person, whose primary concern is delivering orders as fast as possible. Thus, the off-site customer is not exposed to the carefully designed service experience and must rely on telephone contact for any concerns about their order (before or after delivery). The average time an on-site customer interacts directly with FLEs is substantially longer (10-12 minutes) than the remote customer (1-2 minutes).

Third, this setting allows remote and on-site service delivery to be matched to the same revenue-generating unit, thus controlling for the effect of unit-specific factors such as management resources and marketing capability. Fourth, while conducting the study across industries can potentially enhance generalizability, it also poses internal validity threats to the focal interaction mechanism due to uncontrollable and/or unobservable dynamic differences based on industry-specific factors such as competition, lack of uniformity in targeted advertising and service performance standards and their measurement.
Data Source and Sampling

To ensure a consistent competitive base for all stores in the empirical study and minimize the impact of asymmetric competition (Carpenter et al. 1988), we sampled five franchised pizza restaurants in the Midwest with geographically determined delivery boundaries that are contiguous and together entail coverage to one city. These stores have been operating in this city since the early 1980’s. This city has a highly competitive restaurant industry, including numerous pizza delivery restaurants, and indirect competition with numerous “traditional” restaurants and other types of delivered food restaurants. Within each stores’ delivery area, customers can choose from this franchise or any other national pizza franchise, in addition to numerous local options for pizza. Each store sends targeted advertising to potential customers from within its delivery boundaries, and delivery orders are geographically assigned to specific stores. Similarly, while on-site customers can theoretically choose any store, the stores are located such that the obvious convenience-based choice for on-site pizza orders is the same store from which a given customer would order for delivery.

We obtained weekly archival and financial data for all stores, including weekly on-site and remote sales revenues, weekly spending on targeted advertising, and the weekly average order resolution time for all service orders. The final database contained 1115 time-unit observations based on 223 weeks (from September 2002 until December 2006) from 5 stores. Table 1 shows descriptive statistics for the data

-- Insert Table 1 about here --

Measurement and Operationalization

Targeted advertising was measured by the weekly dollar investment in targeted direct advertisements (full color postcards, menus, etc.), which were direct mailed to customers who had previously ordered from these stores. Targeted direct mail was chosen over other forms of advertising because of the focal interest in the interaction between advertising response and service performance (which is only measurable through prior customers). To incorporate carryover effects of advertising (Assmus et al. 1984), an advertising stock variable was created (discussed in detail in the analysis strategy section).

Service performance was captured by the average weekly order resolution time. This measure was reverse coded in the analysis since a larger order resolution time implies poorer service performance. For the on-site customers the order resolution time was the elapsed time from the moment the customer ordered the pizza until the order was out of the oven and ready for the customer to take home. For remote customers, the order resolution time was the elapsed time from the moment the order was placed by the customer, until a delivery driver left the store to deliver the order. In this industry, order resolution time is considered the standard indicator of service performance. Further, evidence in extant literature suggests that the timeliness of service delivery is one of the most important attributes consumers consider when developing mental perceptions of service companies. For example, reliability is consistently ranked as the most important concern for consumers (Zeithaml and Parasuraman 2004) in relation to the other four
dimensions of the SERVQUAL scale (Parasuraman et al. 1988), i.e. assurance, empathy, responsiveness and tangibles. Similarly, Bolton et al. (2008) report that order resolution time is the primary concern of customers in a B2B setting and serves as a proxy for service quality. Additionally, in a conjoint analysis of customer preferences for pizza delivery attributes, Verma and Thompson (1996) find that the primary determinant of consumer choice is the temperature of the pizza. Not surprisingly, order resolution time and pizza temperature are highly correlated given that the longer the pizza rests after exiting the oven, the more cooling time the pizza has before being consumed. Finally, consistent with prior research (Oliva and Sterman 2001) to capture the effect of service performance on consumer choice and revenue, a time lag between the service experience and future sales is incorporated in the analysis. Specifically, to model this carryover effect, a stock variable (Carter and Chitturi 2009; Narayanan et al. 2005) was created for service performance which is discussed next.

Method of Analysis

Stage I. Derivation of Targeted Advertising and Service Performance Stock Variables.

After standardizing all data within each store, an advertising stock variable was created to capture both contemporaneous and lagged effects of targeted advertising. Consistent with prior research (Berndt et al. 1995; Little 1979), we modeled the carryover effects of targeted advertising as follows:

\[
(1) \quad advS_{it} = adv_{it} + adv_{i,t-1}p + adv_{i,t-2}p^2 + adv_{i,t-3}p^3 + \ldots + adv_{i,t-n}p^n
\]

\[
(2) \quad Sales_{it} = \alpha_i + \beta_iadvS_{it} + \nu_{it},
\]

where \(i\) indicates store and \(t\) indicates time; \(advS\) = targeted advertising stock variable; \(adv\) = weekly dollar investment in targeted advertising; \(p\) = the decay parameter to be estimated; \(n\) = number of lags; \(\beta\) = the parameter of targeted advertising stock to be estimated; and \(\nu \sim N(0, \sigma^2)\).

To estimate this model and find the optimal value of the decay parameter for each store, the Gauss Newton grid search, as well as a maximum likelihood method in the SAS 9.1 software was utilized. Eight weeks were chosen as a starting point since the average customer reorder time is 3-4 weeks in this industry and all other lag structures were systematically tested to determine the best fitting model. The AIC and BIC statistics of the estimated models supported an 8-week lag structure as providing the best fit for deriving the advertising stock variable. Hence we used the decay parameter optimized with 8 weeks of advertising to create the stock variable.

This process was then repeated to derive the service performance stock variable. To our knowledge, this is the first dynamic operationalization of a longitudinal estimation of service performance’s effect on sales. This approach seems suitable given that (a) for service performance to affect consumer choice and subsequent sales revenue, there must be a time lag between the service delivery and future purchase, and (b) though the average order cycle is 3-4 weeks, the hypothesized effects of service performance implies that given better service performance, customers may increase their frequency of purchase. Hence a stock variable would capture any carryover effects of service performance.
performance on future purchases. Given that current service performance does not affect current sales, the estimation was slightly different to find the decay parameter in that the lag periods were essentially shifted so that the first period included was at time = t-1. This can be seen in equation 3 below where $serv_S$ = service performance stock, $serv$ = service performance (order resolution time), and all other notations are as above:

$$ serv_S_{it} = serv_{it-1} + serv_{it-2}p + serv_{it-3}p^2 + serv_{it-4}p^3 + ... + serv_{it-8}p^7 $$

$$ Sales_{it} = \alpha_i + \beta_i serv_S_{it} + \nu_{it} $$

**Stage II. Hypothesized Model Analysis.**

To test the hypotheses, account for the multilevel structure of the data (unit sales, targeted advertising and service performance nested within stores) and model unobserved heterogeneity, we utilized a random-paramet ers model (Greene 2008), which allows for between- and within-store effects. This method enables us to capture the effects of the hypothesized variables (i.e. targeted advertising, service performance, service performance × targeted advertising) on sales by modeling parameter heterogeneity and capturing random effects of the effectiveness of marketing variables on sales for each store in the analysis as follows:

$$ Sales_{ijt} = \delta_{0ij} + \delta_{ij} servS_{it} + \delta_{2ij} advS_{it} + \delta_{3ij} servS_{it} \times advS_{it} + \epsilon_{ijt} $$

$$ \delta_{nij} = \varphi_{nij} + u_{nij}, $$

where $i$ and $t$ denote store and time, respectively; $j$ denotes the service delivery channel; $servS$ = service performance stock and $advS$ = targeted advertising stock, both derived in Stage 1 of the analysis; the coefficients $\delta_{nij}$ capture store-specific unobserved heterogeneity within stores; $\varphi_{nij}$ represents between-store effects, and $u_{nij} \sim N(0, \sigma^2)$ denote store-specific variances.

The coefficients $\delta_{nij}$ can change randomly between stores because of unobserved within-store heterogeneity. In turn, $\varphi_{nij}$ capture the between-store effects. In estimating the hypothesized models, we were sensitive to multicollinearity issues and used an instrumental variable for advertising stock orthogonal to the service performance stock variable. We further considered the possibility that targeted advertising and sales revenue might be endogenous though managers of the franchise stores in our sample indicated that they did not set advertising budgets as a function of sales. Following the procedure in Naik et al. (2005), we tested for endogeneity and found that the relationship between targeted advertising and sales revenue variables across stores is not endogenous (coefficient = -0.054, $p > 0.06$), which further supports the appropriateness of the employed model.

To test the robustness of the hypothesized model (Mh- equations 5 and 6 above), we estimated three competing models for conducting model comparison tests: a null model (M0), direct effects model (Md), and the hypothesized model with added quadratic effects of targeted advertising (Mhq) representing diminishing returns to advertising previously supported in the literature (Simon and Arndt 1980) as follows:
\begin{align*}
(M_0) \quad \text{Sales}_{it} &= \delta_{0it} + \epsilon_{it}, \\
(M_d) \quad \text{Sales}_{it} &= \delta_{0it} + \delta_{1it}\text{Serv}_{it} + \delta_{2it}\text{Adv}_{it} + \epsilon_{it}, \\
(M_hq) \quad \text{Sales}_{it} &= \delta_{0it} + \delta_{1it}\text{Serv}_{it} + \delta_{2it}\text{Adv}_{it} + \delta_{3it}\text{Serv}_{it} \times \text{Adv}_{it} + \delta_{4it}\text{Adv}_{it}^{2} + \epsilon_{it},
\end{align*}

RESULTS

Overall Model Tests

Table 2 shows the results of model fit tests and coefficient estimates for the null (M_0), direct effects (M_d), hypothesized (M_h) and hypothesized with added quadratic effects (M_hq) models. To test model fit and conduct model comparison tests, we employed likelihood ratio tests and compared the AIC and BIC statistics. Compared to the null model, the direct effects model provides a significant improvement in fit for both on-site ($\chi^2_{4 \text{ d.f.}} = 40.80, p < 0.001$) and remote service delivery ($\chi^2_{4 \text{ d.f.}} = 85.82, p < 0.001$). Further, the hypothesized model performs significantly better than the direct effect model for both on-site ($\chi^2_{2 \text{ d.f.}} = 10.73, p < 0.01$) and remote service delivery ($\chi^2_{2 \text{ d.f.}} = 18.12, p < 0.001$). Finally, we compared model M_hq with model M_h. The results demonstrate no improvement in model fit for on-site service delivery ($\chi^2_{2 \text{ d.f.}} = 0.70, p > 0.10$) and a significant improvement in model fit for remote service delivery ($\chi^2_{2 \text{ d.f.}} = 15.76, p < 0.001$). Importantly, the effects of the focal interaction of targeted advertising and service performance remain robust and significant after controlling for the quadratic impact of targeted advertising. Second, these results are further confirmed by consistently lower AIC and BIC scores for the hypothesized model (M_h) for on-site service delivery, and the quadratic effects model (M_q) for remote service delivery. Thus, we retain model M_h for hypothesis testing in the case of on-site sales revenue and model M_hq for hypothesis testing within the remote sales revenue model. Overall, we conclude that service performance, targeted advertising and their interaction are critical determinants of revenue expansion for both on-site and remote delivery.

-- Insert Table 2 about here --

Hypothesized Model Analysis

In support of H1, the results indicate that service performance has a significant positive effect on sales revenue whether a customer utilizes on-site service delivery ($\hat{\phi}_1 = 0.031, p < 0.05$) or remote service delivery ($\hat{\phi}_2 = 0.025, p < 0.1$). Consistent with H2, we also find a significant interaction effect for both on-site and remote delivery in the predicted direction as specified in H3a and H3b. As predicted by H3a, we find that when customers use on-site service delivery, service performance positively moderates the effectiveness of targeted advertising ($\hat{\phi}_3 = 0.012, p < 0.05$). The opposite pattern of effects emerges in remote service delivery channels per H3b. The results indicate that service performance negatively moderates the impact of service performance on advertising effectiveness for revenue generation through remote delivery after controlling for the quadratic effects of targeted advertising ($\hat{\phi}_4 = -0.028, p < 0.01$). Overall, the results provide strong support for all hypotheses.
DISCUSSION

In this paper, we develop a conceptual framework and empirically investigate the joint effects of service performance and targeted advertising on revenue expansion through two distinct service delivery channels: on-site service delivery and remote service delivery. In particular, we isolate the longitudinal impact of service performance and propose an interactive mechanism through which service performance and targeted advertising simultaneously drive revenue over time. Drawing from research on the physical service delivery environment (Bitner 1992), models of cognitive processing (Chaiken 1980; Petty et al. 1983), and customer relationship management (Berry 1995), we demonstrate an intricate and differential interplay of service performance and targeted advertising in two distinct service delivery channels. While service performance reinforces the positive effect of targeted advertising in on-site service delivery channels, it has the opposite effect, i.e. substantially weakens its impact, in remote service delivery channels. Overall, we advance theory by isolating the mechanism through which service quality investments translate into financial outcomes when simultaneously employed with marketing communications instruments such as targeted advertising. Our findings also offer practitioner insights into strategic marketing allocations and managing the synergistic and tradeoff effects of service performance and targeted advertising in different service delivery channels.

As with all research, this study has some limitations. The first challenge is the lack of direct modeling of competitive effects in the analysis. While data on competitive service performance and advertising were not available, we were sensitive to this issue by sampling five stores which share similar competitive environments, thus controlling for competition through the study research design. Future efforts may benefit from capturing competitive data on advertising and service performance though the difficulty with data acquisition of that magnitude presents a serious challenge for any motivated researcher. Second, while we were able to reveal the differential mechanisms through which service performance and targeted advertising generate revenue in different channels, we didn’t have access to longitudinal primary data measuring the cognitive and affective responses of consumers to the utilized marketing instruments. Further micro-level analysis of the underlying affective and cognitive processes could be conducted using secondary household-level data combined with primary survey data. Finally our research was conducted in one industry and future efforts should investigate the direct linkage between service performance and revenue generation by examining the robustness of the findings in other industries.

Implications for Research

First, this study has implications for service quality research and contributes to the literature on linking service quality with financial outcomes. The research design and empirical model employed in the study allowed us to reveal a theory based relationship that has not been reported in the past: that service performance has a direct impact on revenue generation over time. Challenges of past research are summarized by Zeithaml (2000) who notes that investments in service quality have not been linked to directly to financial performance for the following reasons:
“First, in much the same way as advertising, service quality benefits are rarely experienced in the short term and instead accumulate over time, making them less amenable to detection using traditional research approaches. Second, many variables other than service improvements (pricing, distribution, competition, and advertising) influence company profits, leading the individual contribution of service to be difficult to isolate. Third, mere expenditures on service are not what leads to profits; instead, spending on the right variables and proper execution are responsible.”

While this paper overcomes these challenges and demonstrates the impact of service performance on revenue, the same approach can be extended to investigate the relationship between service quality investments and profitability over time. A further extension is applying the service performance stock conceptualization to consumer perceptions of service quality and their subsequent influence on key performance outcomes. This research also advances long standing conceptual models of consumer response to advertising. Building off of the interactive models of advertising response (Smith and Swinyard 1982; Vakratsas and Ambler 1999), we offer the first operationalization to test the dynamic interactive effects of prior customer experience (service performance) with marketing communications (targeted advertising). While our research provides promising results for interactive models of consumer response to advertising, this stream of research could be further advanced by incorporating consumer cognitive and affective responses to advertising suggested by Vakratsas and Ambler (1999). Future research could build off this study by combining secondary and primary data and also capturing consumer reactions to the advertising message itself, such as attitude towards the ad and investigating how the content of the message itself interacts with past experience to drive sales.

Third, we identified the mechanisms through which service performance acts jointly with targeted advertising to differentially generate sales revenue over time in remote and on-site service delivery channels. As figure 2 illustrates, service performance boosts the positive influence of targeted advertising on revenue in on-site service delivery channels. For example, when service performance increases from low (-2 standard deviations) to high (+2 std), the effect of targeted advertising on revenue expansion grows by approximately 50%. Thus, on-site service delivery channels, which create an environment conducive to higher levels of direct interaction, greater experiential stimuli, and increased consumer involvement, evidence a positive synergy between marketing service and advertising investments. The reverse mechanism operates in remote service channels where service performance weakens the impact of targeted advertising on revenue. Specifically, as the level of service performance increases from low (-2 std) to high (+2 std), the revenue generating effect of targeted advertising diminishes by approximately 35%. This suggests that in remote service delivery channels characterized by lower customer involvement, marketing actions based on targeted advertising and service performance serve as substitutes in generating future sales. While this study elucidates the mechanism through which marketing investments generate/translate into financial outcomes, a direction for future research could be focusing on service delivery channel design elements and their influence on the underlying/antecedent processes that
set in motion the uncovered mechanisms. How do key aspects of the service delivery interaction, such as the amount of face-to-face time and length of exposure to automated service delivery messages affect customer involvement and the processes which foster the observed outcomes? Experimental research can be utilized to capture and clarify the cognitive and affective processes and their nuances which underscore/come to light from the obtained findings. These approaches combined with the proposed framework can also be useful in applying theoretical insights into other areas seeking to discover the presence of synergistic or counteracting effects of marketing investments in service management.

**Managerial Implications**

The proposed framework for the mechanisms through which service performance and advertising jointly drive performance outcomes enables us to offer immediate implications for marketing practice. First, although a growing trend in marketing is focusing on more aggregate accounting variables as the dependent variables (e.g. Tobin's Q as in Anderson et al. 2004; or Market Value as in Fornell et al. 2006), we utilized sales revenue as the key performance outcome which represents business marketing objectives of the preponderance of consumer service providers - privately owned, often small and medium sized firms. Further, focus on service performance, a managerially controllable and easily actionable operationalization of strategic service initiatives allows direct implementation of our findings in practice.

With marketing departments under global attack to justify expenditures on marketing efforts (Rust et al. 2004), our study offers ammunition to support the maintenance of investing in service operations at the individual store level. The empirical support for a direct link between operational measures of service performance and financial outcomes not only provides scientific support for the use of such measures as benchmarking tools (a common practice in service industries), but also presents an approach to quantifying daily investments in strategic service initiatives. Franchisors of
service industries commonly encourage their franchisees to invest more to meet service performance goals. Without empirical evidence to support the impact of these service quality investments to firm revenue, many franchisees balk at the additional expenses. This research provides franchisors the evidence needed to gain compliance from their franchisees and justify service investments.

The support for H2 has important implications for marketing resource allocations by illustrating that service performance needs to be considered when developing integrated marketing communications systems. Without accounting for the dynamic, interactive effects of service performance, the impact of advertising messages could be biased positively or negatively depending on the nature of the service delivery channel used to interact with consumers. As an example, failing to incorporate the moderating effect of service delivery channel in our analysis results in a significant negative interaction, indicating the prevalence of remote versus on-site service delivery channels in our dataset. In equally distributed operations between on-site and remote service delivery channels, the overall interplay of targeted advertising and service performance is likely to show as nonsignificant, reflecting the opposite direction of interaction effects in the on-site and remote service channels. Therefore, it is critical that managers carefully analyze their service delivery channel options and understand that consumer response to marketing efforts in distinct service channels differ.

Furthermore, Figure 3a illustrates the predicted total impact of targeted advertising on revenue at different levels of service performance in a typical on-site service delivery channel in our dataset. As can be seen, the returns to higher levels of advertising increase as the service performance improves. This does suggest that within reasonable levels, managers should invest in maintaining high levels of both of these key marketing variables. Failure to keep service levels high results in a decreased return from
investments in advertising. While they both result in positive impacts on revenue, either one alone results in a decreased consumer response when compared to the ideal situation of high levels of advertising sent out to customers experiencing high levels of service performance. Obviously the manager needs to consider profit implications of the investment levels of these two variables (something our data did not allow us to do), but assuming that the marginal implications of higher levels of service performance do not negatively affect profits, there is no reason service managers should not strive to keep their service performance up no matter where the advertising budget is set.

Figure 3b plots the same scenarios in a typical remote service delivery channel in the dataset.

As can be seen in figure 3b, there are decreasing returns to targeted advertising as service performance increases.

One way to address these tradeoff effects is to explore ways to enhance remote service delivery channels so that they promote higher levels of interaction and consumer involvement that can translate into synergistic relationships between marketing investments. Although not every consumer desires high relational involvement during each service transaction, offering increased interaction through remote service delivery may subdue the negative interplay of targeted advertising and service performance.

Another approach involves employing pliable service delivery channels which allow the customer to tailor the service to the specific task at hand and choose the level of interaction during different stages of the service delivery process. An example of this can be seen with Darwill, an Illinois based printing company, which recently added an online service portal to augment its service delivery to existing customers (Borden 2009). This
online service delivery channel did not replace the firm’s direct interaction with its customers, but rather offered an option for customers to conveniently and remotely access print layouts, make re-orders, or adjust order amounts without the need to directly engage a Darwill representative at different stages of the service delivery process.

**CONCLUSION**

Using a novel approach to capture the impact of strategic service quality initiatives, this research found support for hypothesized relationships which address important gaps in extant research. First, we found a direct link between service performance and firm revenues which advances the service quality literature. We further demonstrated that service performance moderates the link between targeted advertising and firm revenues, and the direction of that moderation depends on critical differences in the consumer choice of service delivery channel. When service is delivered through a channel that promotes higher levels of consumer involvement, service performance and targeted advertising interact synergistically to increase the returns to investments in both. Alternatively, when service is delivered remotely, service performance and targeted advertising act as substitute marketing messages with diminishing returns to combined investments over time.
### Table 1. Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Store 1</th>
<th>Store 2</th>
<th>Store 3</th>
<th>Store 4</th>
<th>Store 5</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Dev.</td>
<td>Mean</td>
<td>Std. Dev.</td>
<td>Mean</td>
<td>Std. Dev.</td>
</tr>
<tr>
<td>Customer Address Count*</td>
<td>12,000</td>
<td></td>
<td>14,000</td>
<td></td>
<td>20,000</td>
<td></td>
</tr>
<tr>
<td>Weekly On-Site Revenue</td>
<td>3014.77</td>
<td>1208.96</td>
<td>5003.73</td>
<td>1471.84</td>
<td>3362.52</td>
<td>981.41</td>
</tr>
<tr>
<td>Weekly Remote Revenue</td>
<td>18128.16</td>
<td>2566.00</td>
<td>18795.83</td>
<td>2653.01</td>
<td>16769.92</td>
<td>2136.13</td>
</tr>
<tr>
<td>Service Performance**</td>
<td>13.67</td>
<td>0.87</td>
<td>13.99</td>
<td>1.05</td>
<td>14.30</td>
<td>0.88</td>
</tr>
<tr>
<td>Targeted Advertising***</td>
<td>215.67</td>
<td>248.28</td>
<td>214.64</td>
<td>243.61</td>
<td>253.34</td>
<td>297.16</td>
</tr>
</tbody>
</table>

Each store has a sample size of 223 weeks. The combined sample size is 1115 weeks

*Customer Address Count is the approximate number of business and residential customer addresses in each store's geographic area of operations

**Service Performance is the weekly average order resolution time in minutes

***Targeted Advertising is the weekly dollars spent in direct mail to prior customers
### Table 2. Dynamic Effects of Targeted Advertising and Service Performance on Sales Revenue

<table>
<thead>
<tr>
<th>Hypothesized variables</th>
<th>Null Model - $M_0$</th>
<th>Direct Effects - $M_d$</th>
<th>Hypothesized - $M_h$</th>
<th>Quadratic Effects - $M_{hq}$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>On-Site</td>
<td>Remote</td>
<td>On-Site</td>
<td>Remote</td>
</tr>
<tr>
<td><strong>ϕ</strong></td>
<td>t-score</td>
<td><strong>ϕ</strong></td>
<td>t-score</td>
<td><strong>ϕ</strong></td>
</tr>
<tr>
<td>Constant</td>
<td>0.03</td>
<td>0.36</td>
<td>0.06</td>
<td>0.04</td>
</tr>
<tr>
<td>Service Performance</td>
<td>0.02</td>
<td>1.52</td>
<td>0.01</td>
<td>1.00</td>
</tr>
<tr>
<td>Targeted Advertising</td>
<td>0.07</td>
<td><strong>1.71</strong></td>
<td>0.13</td>
<td>***7.20</td>
</tr>
<tr>
<td>Service x Advertising</td>
<td>0.01</td>
<td><strong>1.69</strong></td>
<td>-0.01</td>
<td><strong>-1.62</strong></td>
</tr>
<tr>
<td>Advertising$^2$</td>
<td>0.00</td>
<td>-0.39</td>
<td>-0.03</td>
<td>***-3.62</td>
</tr>
<tr>
<td>N</td>
<td>1115</td>
<td>1115</td>
<td>1115</td>
<td>1115</td>
</tr>
<tr>
<td>Log-likelihood</td>
<td>-1552.32</td>
<td>-1527.72</td>
<td>-1531.92</td>
<td>-1484.81</td>
</tr>
<tr>
<td>AIC</td>
<td>2.79</td>
<td>2.75</td>
<td>2.76</td>
<td>2.68</td>
</tr>
<tr>
<td>BIC</td>
<td>2.80</td>
<td>2.76</td>
<td>2.79</td>
<td>2.71</td>
</tr>
</tbody>
</table>

* significant at the 0.1 level  
** significant at the 0.05 level  
*** significant at the 0.01 level  
Significance was measured with one-tailed tests
REFERENCES


THE DISPERSION OF MARKETING CAPABILITIES AND ITS IMPACT ON MARKETING STRATEGY EXECUTION AND BUSINESS UNIT PERFORMANCE

Michael T. Krush University of Nebraska–Lincoln

“In many companies, the marketing function is in steep decline. Over the last decade in particular, there has been a marked fall-off in the influence, stature and significance of the corporate marketing department.”
--Webster, Malter and Ganesan, 2006, p. 35.

“Very few of us interact with colleagues in the office next door. We collaborate with colleagues from other parts of our own companies as well as partners, suppliers and customers”
--Sara Murphy, HP Marketing Manager, 2004 (Harris 2004).

Marketing journals and managerial publications indicate that marketing activities and processes are being “disintegrated, dispersed,” and “distributed” outside the confines of a centralized marketing department (Homburg et al. 2000; Piercy 1985; Webster Jr. et al. 2005). Regardless of the nomenclature used, the publications’ central theme suggests marketing processes, activities and skills (e.g. such as those inherent in product development, marketing communication and pricing) are no longer centrally contained within the marketing function. For instance, Dell and IBM state that their marketing processes are increasingly stretched across business partners and geographies; and scholars observe that marketing capabilities and competencies are becoming more and more distributed throughout the organization (Andrews 2006; Benson-Armer and Hsieh 1997; Friedman 2007; Webster Jr. et al. 2005).

The dispersion phenomenon continues to gain recognition; and industry practitioners and their academic brethren are grappling to understand the effects of the phenomenon. Within marketing practice, firms wrestle with coordinating the marketing processes that extend across multiple boundaries. The need for guidance in understanding marketing dispersion is exhibited by practitioner-based articles that focus on the topic (McGovern and Quelch 2005; Webster Jr. et al. 2005) and research priorities issued by consortiums consisting of marketing practitioners and leading researchers (Markets 2008).

In academia, dispersion has gained prominence because the issue focuses on the organization of the marketing function and its processes within the firm (Homburg et al. 2000; Webster Jr. et al. 2005; Workman Jr. et al. 1998). Needless to say, the potential implications of marketing dispersion are argued quite contentiously. Proponents of the dispersion phenomenon laud the demise of a centralized marketing function, noting it imposes an “often devastating” barrier to the firm’s customer and market orientation (Gronroos 1994a, p. 7). Yet others believe a centralized marketing function serves as an essential command and control mechanism that allows firms to assess accountability and responsibility for marketing activities and processes (Achrol and Kotler 1999; Cespedes 1996; Day 1994; Webster Jr. et al. 2005).

Despite the well-documented debate, the phenomenon of marketing dispersion requires further study. Previous empirical work has utilized a relatively narrow perspective of dispersion that differs distinctly from current industry practices. The studies have examined the crossing of a solitary boundary (i.e. functions) across which marketing may span (Homburg et al. 2000;
Homburg et al. 1999; Tull et al. 1991; Workman Jr. et al. 1998). Yet, industry practices and studies within marketing, management and sociology, reflect that marketing processes may extend across multiple boundaries, including those across organizations, time zones and geographic expanses (Bell and Kozlowski 2002; Bluedorn and Standifer 2006; Giddens 1987; Rindfleisch and Heide 1997; Rindfleisch and Moorman 2003).

Similarly, the past studies have oft examined marketing activities, the finite tasks of marketing personnel, as the focal aspect that is being dispersed (Tull et al. 1991; Workman Jr. et al. 1998). Yet the resource based view suggests that capabilities are elemental in this discussion, as they impact firm performance (Barney 1991; Vorhies and Morgan 2005). However, very few discussions of dispersion regard marketing capabilities.

Hence, the goal of this research is to extend our understanding of the marketing dispersion phenomenon, by including both boundaries and marketing capabilities into the argument. To meet this goal, the major theoretical and empirical perspectives on capabilities and boundaries are united. These perspectives provide a framework to develop a conceptual model for the dispersion of marketing capabilities. Then, arguments regarding the effects of marketing dispersion and the potential moderating mechanisms are presented. Finally, the paper ends with the potential contributions of this research.

**THEORETICAL FOUNDATION REGARDING CAPABILITIES**

To understand the notion of marketing capabilities, our efforts draw heavily from the theoretical foundation of the resource based view (RBV) (Barney 1991). The resource-based view’s perspective outlines the central role that the firm’s resources play in its performance (Baker and Sinkula 2005). Organizations manage and configure two types of resources, the firm’s assets (i.e. the inputs available to the firm, such as physical property and financial and human capital) and its capabilities (i.e. the firm’s abilities and processes that allow a firm to transform inputs, such as its skills, resources, and knowledge sets, into outputs that are applied to market-related needs) (Baker and Sinkula 2005; Barney 1991; Capron and Hulland 1999; Day 1994; Newbert 2007).

Capabilities come in many forms throughout the organization. For this research, the focus is squarely on marketing capabilities due to their strategic potential in enabling financial performance and facilitating competitive advantage (Krasnikov and Jayachandran 2008; Vorhies et al. 1999). Marketing capabilities are defined as those transformational processes that are formed when actors consistently use their knowledge and skill set to confront and overcome marketing challenges or reach marketing objectives (Vorhies 1998; Vorhies et al. 1999; Vorhies and Morgan 2005). Through their integrating properties, marketing capabilities add value to the firm’s offerings, aid the firm in weathering its environment, and allow the firm to take advantage of opportunities to meet customer needs (Day 1994; Vorhies 1998; Vorhies and Harker 2000). A number of marketing capabilities have been identified in the extant literature (Table 1), and can be delineated by level. Two major levels include those that operate at an organizational level (Day 1994), and those that operate at a business unit or functional level (Vorhies and Morgan 2005).

This research focuses on marketing capabilities that operate at the business unit level (Vorhies and Morgan 2005). The underlying premise is that by examining the dispersion of marketing capabilities, we are able to better understand the structure the firm uses (Workman Jr. et al. 1998) to organize its critical, value creating marketing processes. Thus, marketing
capability dispersion provides a lens to examine the evolving form marketing is taking within the organization.

**Table 1: Examples of Capabilities Within the Marketing Literature**

<table>
<thead>
<tr>
<th>Capabilities</th>
<th>Definition</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ORGANIZATIONAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer-linking capabilities</td>
<td>The initiation and maintenance of close relationships with customers that provides organization-wide understanding and actions to meet customer needs</td>
<td>(Day 1994; Hooley et al. 2005)</td>
</tr>
<tr>
<td>Market planning capability</td>
<td>Abilities and skills in planning that include ability to forecast an ambiguous future, develop options to operate in dynamic environments and execute plans effectively, efficiently, and rapidly</td>
<td>(Slotegraaf and Dickson 2004)</td>
</tr>
<tr>
<td>Market sensing capability</td>
<td>Ability and processes to acquire, disseminate information about customers and competitors and change, react to market conditions, and anticipate competitive reactions due to its marketing</td>
<td>(Day 1994)</td>
</tr>
<tr>
<td>Management capabilities</td>
<td>The ability and processes of the firm’s managers to collaborate, develop, manage, motivate and configure activities and processes</td>
<td>(Hooley et al. 2005)</td>
</tr>
<tr>
<td>Market innovation capabilities</td>
<td>Processes involved in developing and introducing successful innovations to the marketplace</td>
<td>(Hooley et al. 2005)</td>
</tr>
<tr>
<td>Market knowledge competence</td>
<td>The processes that configure, combine, and assimilate information about the market</td>
<td>(Li and Calantone 1998)</td>
</tr>
<tr>
<td>Marketing capability</td>
<td>Describes the cumulative quality of key marketing factors including the quality of the firm’s customer service, advertising effectiveness, quality of sales force, strength of distribution networks, market research ability, speed of new product introduction and ability to differentiate products</td>
<td>(Weerawardena 2003)</td>
</tr>
<tr>
<td><strong>BUSINESS UNIT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT capabilities</td>
<td>The information and technology systems that aid in facilitating knowledge and communication in new product development and cross functional interfaces.</td>
<td>(Song et al. 2007)</td>
</tr>
<tr>
<td>Market information management</td>
<td>Abilities and processes to ascertain and learn about markets and apply this market knowledge</td>
<td>(Vorhies and Morgan 2005)</td>
</tr>
<tr>
<td>Marketing communications</td>
<td>Abilities and processes focused on directing perceptions of value held by customer and consumer base</td>
<td>(Vorhies and Morgan 2005)</td>
</tr>
<tr>
<td>Marketing planning</td>
<td>Abilities and processes to formulate marketing strategies that align organizational resource base and marketplace</td>
<td>(Vorhies and Morgan 2005)</td>
</tr>
<tr>
<td>Channel management</td>
<td>Abilities and processes centered on the initiation and perpetuation of distribution channels; resulting in effective and efficiency of value delivery to end consumer or customer</td>
<td>(Vorhies and Morgan 2005)</td>
</tr>
<tr>
<td>Capabilities</td>
<td>Definition</td>
<td>Source</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Pricing</td>
<td>Processes and abilities centered on obtaining or maximizing revenue from the organization’s customer base</td>
<td>(Vorhies and Morgan 2005)</td>
</tr>
<tr>
<td>Product development</td>
<td>Processes focused on product and service development and management</td>
<td>(Vorhies and Morgan 2005)</td>
</tr>
<tr>
<td>Selling</td>
<td>Abilities and processes through which the firm attains purchases and demand from customer and consumer base</td>
<td>(Vorhies and Morgan 2005)</td>
</tr>
<tr>
<td>Technology capability</td>
<td>The abilities and processes involved in manufacturing and developing new and existing processes and services</td>
<td>(Song et al. 2007)</td>
</tr>
</tbody>
</table>

**EXAMINATIONS OF DISPERSION WITHIN THE MARKETING LITERATURE**

To better understand the marketing dispersion phenomenon, a literature review was conducted. From the previous empirical and theoretical work on dispersion, we surmised an interesting dilemma. While scholars consistently noted the importance of the topic and prevailed upon the marketing academy for further research into the phenomenon (Homburg et al. 1999; Krohmer et al. 2002), examinations of marketing dispersion, per se, were relatively sparse (Table 2).

Early examinations concentrated on the distribution of marketing activities to non-marketing units (Piercy 1985; Tull et al. 1991). The most programmatic research was conducted by Homburg, Workman and colleagues. The researchers defined dispersion, and described it as a non-structural dimension of the marketing functions’ design (Workman Jr. et al. 1998); qualitatively explored the internal location or function where marketing activities could be distributed (Homburg et al. 2000) and examined the influence that non-marketing functions (i.e. sales, finance, research and development) have on marketing decisions (Homburg et al. 1999; Krohmer et al. 2002). Most recently, qualitative research has examined the exporting of marketing activities and influence to various parts of the organization (Webster et al. 2005).

Through this and other scholar’s literature reviews (see Workman Jr. et al. 1998), the research approaches reflect a consistently narrow conceptualization of dispersion. Previous studies assume an inward focus (i.e. across functions or various organizational locations) (Homburg et al. 1999). Unfortunately, today’s market conditions challenge the use of examining a unitary boundary, such as a cross-functional focus. For instance, processes such as marketing communication commonly involve cross functional teams and external agencies (Horsky 2006). This seemingly suggests that marketing capabilities may disperse across both internal and external organizational lines.

Second, the literature review yielded only one study that discussed the dispersion of capabilities (Webster Jr. et al. 2005). This is unfortunate as capabilities are integral to increasing and solidifying marketing’s role within the organization because they plausibly lead to competitive advantage (Vorhies and Morgan 2005). Similarly, the relationship between dispersion of marketing and other valuable outcomes remains to be elucidated. Only a select number of studies have examined the relationship between the dispersion of a marketing element and an outcome variable (Krohmer et al. 2002). In summary, the literature review suggests a vast number of opportunities exist to expand the conceptualization of dispersion by including other boundaries and facets, by expanding beyond activities and integrating capabilities, and by evaluating additional intermediate-level outcomes.
<table>
<thead>
<tr>
<th>Author</th>
<th>Facet of dispersion</th>
<th>Empirical or Conceptual Internal or External to firm</th>
<th>Activity or Capabilities Based</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piercy (1986)</td>
<td>Integration of tasks within marketing department</td>
<td>Empirical Internal</td>
<td>Activity</td>
<td>Company size is related to formal marketing departments and the integration of activities. The chief marketing executive’s role varies across organizations.</td>
</tr>
<tr>
<td>Tull, Cooley, Phillips Jr. and Watkins (1991)</td>
<td>Dispersed marketing organizations</td>
<td>Empirical Internal</td>
<td>Activity</td>
<td>Approximately 70 percent of organizations used some type of dispersed marketing organizations (i.e. at least one of the 1 out of 15 typical activities occurred outside of the marketing department).</td>
</tr>
<tr>
<td>Moorman and Miner (1997)</td>
<td>Dispersion of organizational memory</td>
<td>Empirical Internal (i.e. organizational memory)</td>
<td>Capabilities Based</td>
<td>Memory dispersion is a facet of organizational memory. Organizational memory is distributed, potentially heterogeneously throughout the organization. Memory dispersion is positively associated with new product creativity and short-term financial results.</td>
</tr>
<tr>
<td>Workman Jr., Homburg and Gruner (1998)</td>
<td>Cross-functional dispersion of marketing activities</td>
<td>Conceptual Internal</td>
<td>Activity</td>
<td>Defined construct as “the extent to which functional groups, other than marketing, are involved in traditional marketing activities.” (p. 32)</td>
</tr>
<tr>
<td>Homburg, Workman Jr. and Krohmer (1999)</td>
<td>Marketing’s influence on specific issues. Similar to cross-functional influence on marketing activities (Krohmer et al. 2002)</td>
<td>Empirical Internal</td>
<td>Activity</td>
<td>Major market related changes is (+) and unpredictability of major-market-related changes (-) are associated with marketing’s influence on all issues A differentiation strategy (+) and percentage sold thorough direct sales (-) is associated with marketing’s influence on all issues; a CEO with marketing background (+) and German companies (-) are associated with marketing’s influence.</td>
</tr>
<tr>
<td>Homburg, Workman Jr. and Jensen (2000)</td>
<td>Dispersion of activities to a non-marketing unit or team</td>
<td>Conceptual Internal</td>
<td>Activity</td>
<td>Discovered four internal sites that marketing activities could be dispersed including that of temporary teams, permanent teams, other functional units or new organizational units.</td>
</tr>
<tr>
<td>Krohmer, Homburg and Workman (2002)</td>
<td>Cross-functional dispersion of influence on marketing activities</td>
<td>Empirical Internal</td>
<td>Activity</td>
<td>Cross functional dispersion of influence on marketing activities is positively associated with SBU efficiency, effectiveness and adaptability. All three relationships are negatively moderated by market-related dynamism.</td>
</tr>
<tr>
<td>Webster Jr., Malter and Ganesan (2005)</td>
<td>Diaspora of skills and capabilities; “dis-integrated”</td>
<td>Empirical (qualitative) Internal &amp; External</td>
<td>Activities and capabilities (competencies)</td>
<td>Key characteristics that influence marketing’s role in corporate strategy include the firm’s definition of marketing, the firm’s management objectives; CEO background; strategy; brand roles; new product development strategy and portfolio strategy.</td>
</tr>
</tbody>
</table>
THE POTENTIAL FACETS OF DISPERSION

Yet, how are marketing capabilities potentially distributed? Theory and research within marketing, management, and organizational behavior consistently describe four major boundaries across which marketing capabilities may plausibly span (Ancona et al. 2001; Bluedorn and Denhardt 1988; Homburg et al. 2000; Maltz and Kohli 2000; Rindfleisch and Heide 1997; Walker Jr. and Ruekert 1987); however, each boundary is typically examined in isolation from the others. By integrating the theoretical and empirical work on these boundaries, the argument can be made that dispersion is a multi-faceted phenomenon consisting of four dimensions (i.e. boundaries): inter-organizational, intra-organizational, spatial, and temporal. A brief summary of the theoretical and empirical background for each boundary follows.

Intra-organizational

The intra-organizational facet takes an inward perspective. It describes the extent that the distribution of marketing capabilities spans across the firm’s internal borders, including those contributions made by non-marketing functions, divisions, ad-hoc committees, and cross-functional teams. The facet has been examined for over twenty years within the marketing interface literature and its focus on the crossing-points and interactions between marketing the firm’s other functions (Walker Jr. and Ruekert 1987).

Theoretically, marketing crossing inter-functional boundaries has been considered within the body of open social system theories (Ruekert and Walker Jr. 1987). The theory suggests the interfaces between marketing and other functional units reflect varying interactions, interests and interdependencies (Ruekert and Walker Jr. 1987). The interactions and interdependencies result in various types of structures, including informal structures such as dispersion (Workman Jr. et al. 1998).

The interface literature illustrates both the swath of non-marketing teams and functions across which marketing capabilities may span (Garver and Mentzer 2000; Gupta et al. 1986; Hutt and Speh 1984; Le Meunier-FitzHugh and Piercy 2007b; Le Meunier-FitzHugh and Piercy 2007a; Maltz and Kohli 2000); and the ways in which functional and cross-functional parties and teams can contribute to marketing capabilities. Within the business-to-business context, scholars have described a multi-functional interface, the marketing strategy center, that plays a role in developing marketing strategy (Hutt and Speh 1984). This multi-departmental unit includes all of the actors that contribute toward the development of a marketing strategy or a market planning capability (Hutt and Speh 1984).

The marketing interface literature describes the complexity that occurs when a intra-organizational boundary is crossed. Summarily, dispersion across these borders possess advantages and disadvantages. Scholars recognize the interactions between interdepartmental and interorganizational functions are important for the long-term health of an organization (Walker Jr. and Ruekert 1987), as they add value to processes, including product innovation (De Luca and Atuahene-Gima 2007). However, as these capabilities span intra-organizational boundaries, they are rife with challenges. The literature reflects psycho-social challenges such as the varying cultural frames adopted by the functions (Beverland et al. 2006); the different mentalities held by the departments (Becker and Lillemark 2006); communication factors such as the degree of overall communication (Le Meunier-FitzHugh and Piercy 2007a); and
organizational factors such as the degree of goal conflict (Dewsnap and Jobber 2002) or the misalignment of goals and activities (Le Meunier-FitzHugh and Piercy 2007a).

**Inter-organizational**

The inter-organizational facet describes the distribution of marketing capabilities over the boundaries of independent organizations (i.e. inter-organizational boundaries). From an empirical standpoint, the inter-organizational boundary is commonly explicated within research in the context of marketing channels, sales, and outsourcing (McGovern and Quelch 2005; Rindfleisch and Heide 1997). From a theoretical perspective, the inter-organizational boundary is the focus of the transaction cost paradigm and its attempt to determine whether the firm will maintain certain activities or processes internally or instead allow the processes to span across inter-organizational borders (Rindfleisch and Heide 1997).

One of the most recent examples within marketing of capabilities spanning across inter-organizational borders is focused on outsourcing, the “fundamental decision to reject the internalization of an activity” (Gilley and Rasheed 2000). Outsourcing often reflects the firm’s assessment of its stock of capabilities and resources (Espinosa et al. 2007b) or the ability to “tap the superior skills of external suppliers” (Carson 2007, p. 50). Within marketing, advertising processes have been outsourced for decades (Horsky 2006). However, firms are now incorporating a range of external marketing partners to assist with key marketing processes, including call centers and customer service, web site management, creative development of promotional campaigns, measurement of promotional executions, and the coordination of marketing communication across channels and customers (McGovern and Quelch 2005). In fact, recent industry studies suggest over one-half of all business-to-business marketing executives plan to outsource a substantial degree of their marketing activities (McGovern and Quelch 2005).

Inter-organizational dispersion wields an intricately complex range of outcomes. The value of crossing inter-organizational boundaries lies in gaining access to external partners’ capabilities, expertise, and knowledge (Parvatiyar et al. 2007). Through this access, the firm can realize beneficial outcomes, including decreased costs, reduced time to introduce goods to markets, greater flexibility (Carson 2007) and a greater ability to focus on core competencies (Parvatiyar et al. 2007). However, extending capabilities across organizational lines may also open up opportunities for opportunism by partners, reflect a need for implementing governance mechanisms for greater control, and create a more cost-intensive structure in order to enact these mechanisms (Rindfleisch and Heide 1997).

**Spatial**

The spatial facet describes the extent to which marketing capabilities span across geographic distances. The element provides a lens to understand the effect of proximity on marketing capabilities and the business unit. Spatial boundaries are the theoretical focus of cluster theory within the marketing discipline and economic geography within the economics domain (Ganesan et al. 2005; Krugman 1991). Both theoretical perspectives suggest that proximity (i.e. an analog to dispersion) facilitates certain benefits, primarily scale economies within or outside of a firm. Examinations of spatial dispersion have been empirically examined in the retail, global marketing, and product development contexts (Brown 1993; Brown 2002; Ganesan et al. 2005).
Spatial boundaries are used to describe virtual teams, “groups of geographically and organizationally dispersed coworkers assembled using a combination of telecommunications and information technology to accomplish an organizational task” (Townsend et al. 1998, p. 17); and categorize them within typologies (Bell and Kozlowski 2002). In the research and development research domain, studies have examined teams, organizations, individuals, and activities distributed across geographical expanses (Espinosa et al. 2007b; Kirkman and Mathieu 2005; Richtnér and Rognes 2008); and the impact of spatial boundaries, including: the physical distribution of activities on team performance (McDonough et al. 2001); the challenges present in conducting dispersed research and development across physical locations (Solomon 1995); the organizing of R&D locations on a global basis (Richtnér and Rognes 2008); the organizational structures of R&D activities for global markets (von Zedtwitz and Gassmann 2002), and the strategies for distributing activities (Bartlett and Goshal 1990).

Similar to other boundaries, a number of contradictions are inherent when capabilities span spatial expanse. Dispersing capabilities across spatial expanses allows the firm to leverage resources and knowledge from various localities (Richtnér and Rognes 2008). Similarly, dispersing across spatial expanses presents challenges to communication, coordination, trust and maintaining administrative costs (Hrebiniak 2005) (McDonough et al. 2001) (Astley 1985).

**Temporal dispersion**

The fourth boundary is a temporal boundary, such as those manifested by objective, (or at least socially constructed) time zones, and outlined within the theory of clock time (Bluedorn and Denhardt 1988; Bluedorn and Standifer 2006; Giddens 1987). Clock time is considered central to understanding the organizing of the socio-economic firm (Giddens 1987); and the common acceptance of the way time is viewed in Western societies (Orlikowski and Yates 2002). “As a society, we tend to agree on an objective concept of time, one that is unitary (subject to only one interpretation), linear (progressing steadily forward from past to present to future), and mechanical (containing discrete moments subject to precise measurement)” (Bluedorn and Denhardt 1988, p. 302).

This objective-based perspective seems inherently tied to marketing and the marketplace for a number of reasons. First, clock time allows time to be viewed as a resource. Specifically a clock time perspective “enables the commodification of labor, because time is viewed as a resource that can be measured, standardized, used, bought and sold” (Ancona, Okhuysen and Perlow 2001, p. 515). Second, clock time denotes boundaries of an organization or firm (Bluedorn and Denhardt 1988; Moore 1963), as "Temporal measurement …tends to heighten the awareness of, and the significance of, finite boundaries” (Moore 1963, p. 19) and perhaps even adds challenges to capability development and maintenance.

The integration of a temporal facet in our conceptualization follows previous research that makes a distinction between boundaries of time and space (Bell and Kozlowski 2002). In some instances, teams may be dispersed across geographies but not time zones. This occurs because temporal boundaries tend to exist on an east-to-west basis, instead of a north-to-south basis (O’Leary and Cummings 2002). For instance, consider two sets of dyadic marketing partners located in San Juan and Montreal or New York and London (O’Leary and Cummings 2002). Each set is approximately 1,900 miles apart. However, the former is in the same time zone, while the other dyad is separated by a number of time zones. For members in different time
zones, “responses to queries or request for information needed to get on with a task will be delayed. And if team members in Shanghai or Singapore are 12 hours ahead of those in New York or Toronto, they will not have the opportunity to call one another during normal business hours” (Benson-Armer and Hsieh 1997, p. 20.) This temporal example illustrates that capabilities spanning across temporal boundaries may be subject to the accessibility of marketing partners to one another, the temporal rhythms of working on key processes, and the degree of synchronous communication and interactions used (Espinosa et al. 2003; O’Leary and Cummings 2002; Prasopoulou et al. 2006).

**Marketing dispersion**

From this review of theoretical and empirical research streams, we introduce the concept of marketing capability dispersion and describe it as a composite construct composed of four facets, inter-organizational, intra-organizational, temporal and spatial. Marketing capability dispersion is defined *as the degree to which a firm’s integrative marketing processes span across inter-organizational, intra-organizational, temporal and spatial boundaries.*

The extent to which marketing is dispersed is contingent upon all of the four facets and the firm’s marketing capabilities. For instance, a high level of marketing dispersion would occur when capabilities are distributed across functions and inter-organizational partners, who are located across a range of geographic distances and varying time zones. One could envision a business unit using a host of sales and marketing agencies along with cross-functional teams that are located across the firm’s regional campuses and varied time zones. However, the literature would suggest that this extreme level of dispersion (i.e., all of the chosen marketing capabilities being highly distributed across all four facets) is unlikely. A marketing function remains in existence in most firms, and some degree of the capabilities may be squarely situated within the department (Moorman and Rust 1999; Workman Jr. et al. 1998).

In addition, each marketing capability may be differentially dispersed. Take for instance, product development. This capability could be greatly dispersed, due to the use of external partners and cross-functional teams located across varying sites and time zones. In contrast, pricing capabilities may seemingly be concentrated, perhaps limited to the lateral boundary between marketing and finance. Hence, depending on the analysis, we expect to find varying degrees of dispersed marketing capabilities throughout the firm.

Knowing that varying degrees of dispersion may occur, a number of intriguing questions avail themselves. Specifically, we propose three questions and argue their supporting propositions. First, we examine the antecedents that may enhance the degree to which marketing capabilities are dispersed. Next, we inquire about the potential effects of marketing dispersion. Our third, and final question, centers on the potential moderating conditions which may enhance or impair the relationship between marketing capability dispersion and the potential results.

**Conceptual Model**

As reflected by the conceptual model (Figure 1) the dispersion of marketing capabilities serves as the focal construct and explains two outcomes, the degree of marketing strategy execution and business unit performance. As the model reflects, as the dispersion of marketing capabilities increases, certain challenges become inherent and are manifested by lower levels of marketing strategy execution.
The resource based theory also emphasizes the importance of certain coordinative business unit mechanisms that may reduce these challenges. Hence, one mechanism related to coordination (i.e. knowledge integrating mechanisms) is integrated into the model as moderating mechanisms. The mechanism is proposed to attenuate the negative relationship between marketing capability dispersion and marketing strategy execution.

Similarly, the model reflects a non-linear inverted-u-shaped relationship between the dispersion of marketing capabilities and business unit performance. As the following argument explains, certain cost savings may be initially realized and then ultimately lost due to greater levels of dispersion. Finally, the resource based view suggests internal factors either enhance or hamper the degree of marketing capability dispersion. Certain historical proclivities, the long-held dimensions or predispositions within a business unit, often determine the business unit’s interactions and its design (Johnson and Sohi 2001; Matsuno et al. 2002). Two such proclivities, entrepreneurial proclivity and relational proclivity, are integrated into the model as antecedents to marketing capability dispersion.

**Figure 1: Conceptual Model**

![Figure 1: Conceptual Model](image)

**THE ANTECEDENTS OF MARKETING CAPABILITY DISPERSION**

The conceptual model shows that certain dynamics may either enhance or hamper the degree of marketing capability dispersion. The resource based view suggests a firm’s historical path may strongly impact its capabilities (Helfat 2003). Scholars have captured these historical effects by examining the organization’s initial state, its mindset, and its historical proclivities (Helfat 2003; Johnson and Sohi 2001; Matsuno et al. 2002; Tripsas and Gavetti 2003).

In the marketing and management literature, proclivities are often examined as one of the business unit’s long-held dimensions (i.e. the firm’s predispositions). These proclivities are considered to plausibly impact the business unit’s interactions, the design of its functions (Johnson and Sohi 2001; Matsuno et al. 2002), and the development and distribution of its capabilities (Helfat 2003).
The following arguments suggest that two proclivities, entrepreneurial and relational, will increase marketing capability dispersion. The former facilitates on-going beliefs in the value of innovation and proactiveness (Matsuno et al. 2002); the latter aligns with marketing’s current marketing relationship paradigm (Palmatier et al. 2006). Both reflect two of the firm’s key purposes, marketing and innovation (Drucker 1954).

**Entrepreneurial proclivity**

Entrepreneurial proclivity is the organization’s penchant for innovation, risk-taking, and proactiveness which is ultimately manifested in the firm’s entrepreneurial processes (Matsuno et al. 2002). A firm possessing an entrepreneurial proclivity would hold an appreciation for autonomy, creativity, and the quest for new ideas (Matsuno et al. 2002). One would envision a firm holding an entrepreneurial proclivity to undertake unfamiliar processes and unexplored opportunities (Matsuno et al. 2002).

This quest for non-traditional methods and processes may impact the organization and development of marketing capabilities. Companies such as IBM and Sun Microsystems are incorporating actors outside of the hub of the firm’s marketing department. Both firms use cross-functional teams comprised of members that work at an offsite location (Conlin 2006).

We argue that marketing capability dispersion will be positively impacted when entrepreneurial proclivities exist. The history of innovation, risk-taking, and proactiveness may create a centrifugal force, effectively expanding marketing capabilities to incorporate technology and partners that reside across geographical, temporal, and inter-organizational lines. Procter and Gamble’s *connect and develop* innovation model reflects a potential form of an entrepreneurial proclivity. The firm’s program identifies promising initiatives in marketing and product development from outside sources. The program’s results suggest the firm’s product development and marketing research capabilities have expanded outside the confines of the marketing function. In 2006, approximately 45 percent of new product initiatives consisted of components discovered outside the confines of its organization (Huston and Sakkab 2006).

For firms possessing a history of proactiveness, innovation, and risk-taking, the concentration of marketing capabilities within the function appears as a rather ill-gotten fancy. Entrepreneurial proclivities suggest a dispersing effect, rather than a more centralized form of organization (Matsuno et al. 2002). Thus, the following hypothesis is suggested:

H1: The greater the business unit’s entrepreneurial proclivity, the greater the level of marketing capability dispersion.

**Relational proclivity**

Relational proclivity describes “the strength of the general tendency by the firm to seek, engage in, and make close partner-style inter-firm relationships as opposed to conducting inter-firm interactions at arms-length” (Johnson and Sohi 2001, p. 302). The business unit possessing a relational proclivity believes relationships aid in attaining prized outcomes (Johnson and Sohi 2001). Some observers suggest Dell Computer Company exhibits a relational proclivity due to its relatively close relationships with its supplier base (see Friedman 2007).
Firms possess differential levels of relational proclivities (Johnson and Sohi 2001), which partially explains a firm’s propensity to engage in direct alliances and attain resources and information from partners (Singh 2003). We argue the business unit’s relational proclivity heightens the dispersion of marketing capabilities. When relational proclivity is high, the business unit seeks relationship partners to aid with its marketing capabilities. For these business units would be more prone to developing a rapport with external marketing partners, for instance, advertising agencies, than other firms. The business unit’s proclivity would perpetuate the organizational value that joint projects help it access resources and enable capability development (Johnson and Sohi 2001). Hence the relational proclivity would effectively provide a dispersing effect on marketing capabilities across a number of boundaries. Thus, we suggest the following hypothesis:

H 2: The greater the business unit’s relational proclivity, the greater the degree of marketing capability dispersion.

**THE EFFECTS OF MARKETING CAPABILITY DISPERSION**

Next, we argue marketing capability dispersion impacts the degree to which a business unit executes marketing strategy. Strategy implementation is described as the “how-to-do-it” elements of marketing (Cespedes 1991, p. 3) -- the transformation of strategic objectives into behaviors and processes that allow the function or the firm to attain its strategic goals (Chaffee 1985; Sashittal and Jassawalla 2001). We suggest marketing capability dispersion is inherently tied to marketing strategy execution.

**Marketing Strategy Execution**

First, the means of structuring and organizing plays a key role in the attainment of implementation processes and marketing strategy achievement (Cespedes 1991; Thorpe and Morgan 2007); and dispersion is an informal structure of organizing marketing (Workman Jr. et al. 1998). Dispersion effectively impacts information flow, resource allocations, social interactions, managerial focus, and “determines over time the kinds of skills that are developed…[and] the kinds of marketing strategies and people realistically available to the firm” (Cespedes 1991, p. 455).

Second, strategic implementation is not easily attainable in itself. Some suggest success rates range from 10 to 30 percent (Raps 2004); others note that 90 percent of strategies are not implemented or fall short of their objectives (Bigler 2001). A number of challenges appear evident when multiple boundaries are crossed. When activities and capabilities are dispersed barriers to coordination, communication, and access to resources become present. For instance, a negative relationship exists between spatial dispersion and coordination (Espinosa et al. 2007b); and temporal dispersion hampers the potential for work schedules resulting in lower access to information resources (Benson-Armer and Hsieh 1997, p. 21). Certain facets of dispersion may hinder relationship development and communication (Cummings and Kiesler 2005) that is essential to swiftly attaining strategic goals. Dispersion across multiple sites creates challenges in communication flow (Kirkman and Mathieu 2005). As proximity decreases, communication frequency is inhibited and the ability to read non-verbal and contextual references falls (Espinosa et al. 2007b). Intra-organizational dispersion produces challenges to the degree of overall communication and bi-directional communication (Dawes and Massey 2005; Le Meunier-FitzHugh and Piercy 2007b). These challenges cause one to pause because coordination,
information sharing, and adequate resources are considered essential to successful strategy implementation (Hrebiniak 2005).

In summary, implementation is often difficult in itself. However, dispersion increases the opportunity for even more challenges. As the dispersion of marketing capability increases, challenges arise in communication and synchronization (Cummings and Kiesler 2005; Espinosa et al. 2007a; Espinosa et al. 2007b) elements that are central to marketing strategy execution. The challenges are manifested in lower levels of marketing strategy execution.

H 4: Marketing capability dispersion is negatively related to marketing strategy execution.

Business Unit Performance

Next, the model shows a non-linear, inverted u-shaped relationship between the dispersion of marketing capabilities and business unit performance. Business unit performance describes the extent of the business unit’s financial success (Homburg et al. 2007).

Empirical and trade research finds a link exists between one form of dispersion (i.e. the distribution of cross-functional influence) and positive firm outcomes (Krohmer et al. 2002). Practitioner research indicates certain forms of dispersion yields positive financial outcomes. Inter-organizational dispersion, in the form of outsourcing sales and marketing, may result in cost reductions (Parvatiyar et al. 2007). Within the consumer packaged goods industry, this form of outsourcing has saved the industry approximately $4.8 billion (Parvatiyar et al. 2007). The decreased expenses result from reduced investments needed to develop marketing capabilities internally. Similarly, dispersion may create increased adaptability (Krohmer et al. 2002). This flexibility provides the firm with greater opportunities to quickly take advantage of changing market conditions (Grewal and Tansuhaj 2001).

However, we argue when dispersion exceeds a certain point, it may produce negative financial effects. Dispersion creates a very challenging form of organizing. “The more differentiated the structure, the more difficult it will be to coordinate the activities of the various units and the more bases for conflict will exist” (Scott 1992, p. 89). With greater levels of organizational complexity, the costs of coordination increase and effectively impact the business unit’s financial performance. Research suggests coordination costs may increase at an exponential rate as the dispersion of a project increases (Boh et al. 2007).

Dispersion also creates additional challenges to other forms of performance. The performance of globally distributed teams exhibit lower performance levels than teams located together. (McDonough et al. 2001). Spatial and temporal dispersion hampers the capability efficiency and effectiveness, especially for those capabilities dependent on timely turn-around for information and resources (Benson-Armer and Hsieh 1997). Barriers to information and resources reduce the opportunity to advance market share, to take advantage of short-term sales opportunities and become more efficient—all elements of financial performance.

In summary, initial levels of dispersion may yield greater levels of business performance, as dispersion reduces the necessity and investment required to develop an internal portfolio of marketing capabilities. However, when dispersion exceeds a certain level, it creates greater
coordination complexity and coordination costs. Thus we submit that the relationship between marketing capability dispersion and financial performance is non-linear.

H 5: There is an inverted U-shaped relationship between the dispersion of marketing capabilities and business performance.

**MODERATING CONDITION**

The resource based theory emphasizes the importance of certain business unit mechanisms related to learning and coordination and may reduce the challenges in strategy execution. Similarly, the value of a knowledge coordination mechanism is echoed in the marketing research regarding cross-functional boundaries (De Luca and Atuahene-Gima 2007). Hence, the increasing use of the knowledge integrating mechanism is proposed to attenuate the negative relationship between marketing capability dispersion and marketing strategy execution.

**Knowledge Integrating Mechanisms**

Knowledge integrating mechanisms refer to the structures and processes used to coordinate the information generated by internal and external marketing partners involved in processes such as marketing capabilities (De Luca and Atuahene-Gima 2007; Olson et al. 1995). “Organizations create integrating mechanisms in order to cope with general management problems of…coordination” (Galbraith 1978, p. 68). The mechanisms allow information to be captured and transferred in a timely manner from various marketing partners and actors (De Luca and Atuahene-Gima 2007; Galbraith and Nathanson 1978). In previous research, knowledge integrating mechanisms have included meetings to relay information, review tasks and key areas of accountability, and discuss details and outcomes of marketing strategy (De Luca and Atuahene-Gima 2007).

We suggest knowledge integrating mechanisms play a key role in coordinating tasks and facilitating information channels that are central to marketing capabilities. Knowledge integrating mechanisms provide synchronization. They orchestrate flows of information and actions across functions and organizational boundaries and provide a transparency of marketing processes and activities to all members (Hahn et al. 2000). Similarly, they afford the firm with a means to realign a range of priorities and reallocate resources. These mechanisms allow the organization to match the “goals of the interdependent parts and linking their priorities with other parts of the marketing organization” (Bossidy et al. 2002, p. 234). Ideally, the ability to realign and reallocate resources helps facilitate a common action plan or ongoing blueprint that increases ability to implement marketing strategies.

Research in product innovation appears to reinforce this interpretation. Studies show that knowledge integrating mechanisms serve as an essential tool for cross-functional teams to effectively reach their goals (De Luca and Atuahene-Gima 2007). For those firms with knowledge integration mechanisms present, the relationship between marketing capability dispersion and strategic execution will be enhanced. Therefore, we posit the following:

H 7: The greater the business unit’s use of knowledge integration mechanisms, the negative relationship between marketing capability dispersion and marketing strategy execution is attenuated.
DATA COLLECTION AND DESIGN

The sampling frame is comprised of senior-level marketing managers within business units. This approach aligns with previous studies of marketing organization, as the business unit is the hub of marketing activity (Homburg et al. 1999; Krohmer et al. 2002; Slater et al. 2007). Approximately, 2,000 senior marketing managers will be randomly selected from a commercial mailing list of firms. The data collection will use a key informant design (Huber and Power 1985; Slater et al. 2007; Stump and Heide 1996). Respondents will be directed to focus on the business unit rather than their personal involvement. To ensure qualified respondents (Campbell 1955), informants will be assessed based on their knowledge of marketing issues in the industry, knowledge of business unit performance, and involvement in the formulation of marketing strategy.

While some may express concerns of single informant and common method variance, concerns regarding common method variance and bias are addressed during questionnaire design and data analysis (Rindfleisch et al. 2008). To reduce the potential for common method variance, different scale modes (i.e. semantic differential vs. likert) scales will be used when measuring the independent and dependent variables on the survey; and educated informants will be used (i.e. senior level marketing managers) (Rindfleisch et al. 2008) (Rindfleisch et al. 2008; Rindfleisch and Moorman 2001; Rindfleisch and Moorman 2003). Similarly, a marketer variable will be integrated into the questionnaire for future analysis (Lindell and Whitney 2001; Rindfleisch et al. 2008). The potential for acquiescence bias, the predisposition to agree or disagree with a questionnaire statement regardless of its content will be proactively measured in the survey (Agustin and Singh 2005).

THEORETICAL AND MARKETING IMPLICATIONS

The value of understanding marketing dispersion has been widely documented with the marketing and practitioner literature. This study provides a means to conceptualize dispersion as a multi-dimensional construct and simultaneously measure the distribution of marketing capabilities across multiple boundaries. We believe our literature review, theoretical framework and proposed conceptual model plot a pragmatic pathway to conduct empirical research on the subject and broaden the inquiry of this important phenomenon. Further, we suggest the conceptual arguments provide direction to both academicians to advance the study of dispersion and to practitioners to highlight the value of understanding their marketing capabilities and its effects. In this final section, we reinforce our contributions to both academia and practice.

Theoretical Contribution

We suggest this research provides a number of theoretical and academic contributions. First, this research addresses an active debate within academic circles. The marketing discipline is grappling with the implications of marketing being dispersed across multiple boundaries (Homburg et al. 2000; Homburg et al. 1999; Webster Jr. et al. 2005). The central hypothesis of this research is that marketing capability dispersion will influence the execution of marketing strategy and business unit performance. Hence, the value of this research lies in its arguments highlighting key relationships—valued in both practice and academic circles.

Second, the research topic addresses an important gap in the literature. Despite the subject’s noted importance (Webster Jr. et al. 2005; Workman Jr. et al. 1998), research on the dispersion of marketing capabilities is relatively scant (Homburg et al. 2000; Homburg et al.
Beyond extending research within this area, this study is distinct from previous examinations on the subject. In contrast to prior approaches, this research examines the distribution of marketing capabilities, the integrative processes that facilitate competitive advantage (Vorhies 1998; Vorhies and Morgan 2005); and introduces a multi-faceted conceptualization to describe the distribution of marketing capabilities across multiple boundaries.

Third, the research addresses requests made by a number of scholars regarding marketing dispersion. Marketing scholars have suggested research focus on: the differential outcomes that result from dispersion (Homburg et al. 2000; Homburg et al. 1999); the influence of using dispersed capabilities in structuring and designing a marketing function (Moorman and Rust 1999); and the inter-relationships between marketing strategy, the structure of marketing (i.e. dispersion) and implementation (Slater and Olson 2001). This research provides conceptual arguments that meet these multiple aims.

**Contribution to Practice**

At its broadest levels, the topic of this research, marketing capabilities, is relevant to practice. Marketing capabilities are strategically important because they play a key role in enabling financial performance and facilitating competitive advantage (Krasnikov and Jayachandran 2008; Vorhies et al. 1999). Yet the ability of business marketers to demonstrate the value of their marketing capabilities to senior management appears woefully low. Only twenty-one percent of senior executives believe marketing is one of the three most important functions in their organization; and only a minority of chief marketing officers consider their organization’s marketing performance as outstanding (Council 2006; O’Halloran and Mosher 2003). The division between the potential value of marketing capabilities and their perceived value within the minds of senior executives underscores a significant challenge facing business marketers. This research attempts to bridge this divide by broadly examining marketing capabilities and their impact on financial performance.

Second, marketers must not only contend with senior management’s negative perceptions of their marketing capabilities; but they must also grapple with the evolving nature of their marketing capabilities.

It is increasingly common for marketing capabilities to extend outside the confines of the marketing department. Even though the practitioner and academic literature has conceptually discussed the dispersion phenomenon (Homburg et al. 2000; Homburg et al. 1999; Webster Jr. et al. 2005), few guiding principles have been provided to business-to-business marketers. This conceptual paper provides the launching pad for further empirical investigations that can provide prescriptive guidance about the effects of dispersed marketing capabilities to business marketers.

Third, the research’s outcome variables, marketing strategy execution and firm performance were chosen due to their importance to marketers. First, successfully implementing strategies is extremely challenging for business units. Success rates are relatively abysmal (Bigler 2001; Raps 2004); and dispersion impacts two key factors that lie at the heart of successfully executing strategy, coordination and communication (Hrebiniak 2005; Hrebiniak 2006). Thus, marketing capability dispersion appears intricately related to successfully executing
marketing strategies. By analyzing the relationship between marketing capability dispersion and marketing strategy execution, we provide guidance regarding strategic execution to marketers.
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EFFECTS OF TACTILE SENSE ON BRAND ATTITUDE

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INTRODUCTION

Nielsen Media Research (2006) reports that Americans have become less interested in TV commercials in spite of the increasing numbers of available channels. TV commercials as well as other types of advertising conveyed through radio, newspapers, and magazines mostly rely on only two sensory modalities such as visual and auditory senses. An international research company, Millward Brown indicates that over 99% of all brand communications is centered on the sense of sight, whereas 75% of emotions that people experience in a daily life are aroused by the sense of smell (Lindstrom 2005b).

Marketers need to provide consumers with an opportunity to experience a multi-sensory stimulus, avoiding unduly heavy reliance on the visual and auditory senses, because offering combinations of various sensory stimuli could be more effective than pushing a product to consumers (Joy and Sherry 2003; Lindstrom 2005a, 2005b; Schmidt 1999). Examples of using multi-sensory stimulus are found across various products and services. Jaguar has used Connolly leather and walnut dashboard, dating back to 100 years ago, to provide consumers with tactile sense in addition to visual and auditory senses. Another example can be found from Singapore Airlines' aroma and perfume, 'Stefan Floridian Waters' used by crews before the plane takes off as well as a hot towel provided to passengers. These sensory stimuli would stimulate the passenger's sensation and have them experience emotions that are expected to be associated with the brand. Also Kellogge's launched a distinctive crunch that allows consumers to hear a chewing sound while eating and have a feel of crunch while touching their chin and jaw (Hodge 2006; Lindstrom 2005a, 2005b). KTF, a major Korean mobile communication company, uses five senses to associate sensory experiences to the brand despite the difficulty of conveying sensory stimuli in the context of intangible service. KTF has a number ‘experiential zone’ to provide customers with tactile experience by touching, gripping, and weighing the phone. KTF provides customers who visit the experiential zone with the same coffee that is available at Java coffee shop. Customers are not only exposed to various telecommunication media but can have a feel of the product by smelling the aroma of fresh coffee and being relaxed with the flavor. Thus, KTF provides customers with not only 'see and listen' function but also diverse sensory stimuli and emotional experiences, which are expected to be associated with the brand in the end.

Echoing the increase in the usage of multi-sensory stimuli, Schmitt (1999) introduced a new perspective, so called 'experiential Marketing'. Compared to the traditional marketing practices that view consumers as those who are rational in their decision making and focus on functional features and benefits, experiential marketing addresses emotional decision makers who are concerned with both hedonic experiences and functional features. Schmitt proposed that strategic experience modules (SEMs) consist of sensory experiences (sense marketing), affective experiences (feel marketing), creative and cognitive experiences (think marketing), physical experiences, behaviors and lifestyle (act marketing), and social-identity experiences (relate marketing).

Experiential marketing aims to create a holistic experience of a product and service through multi-senses such as personal vision, sound, smell, taste, and touch and enhance
customer’s satisfaction, aesthetic pleasure, and excitement. The literature suggests that sensory stimulus affects consumer's purchase behavior including attitudes toward brand as well as store and time spent at the store (Mattila and Wirtz 2001; Milliman 1986; Mitchell, Kahn, and Knasko 1995; Yalch and Spangenberg 2000 etc.). The consumer's sensory experience plays a more important role in the non-evaluative judgment of the features of product than the verbal description does (Hoegg and Alba 2007; Raghubir and Krishna 1999). Furthermore, sensory experience contributes to the maintenance of a continuous relationship between the brand and consumers (Slassi 2005).

Among various senses, touch experience increasingly attracts the attention of marketers as a means of experiential marketing. For instance, when LG electronics introduced a latest version of mobile phone, they adopted the same advanced carbon-fiber and high-tech materials that were used for MAYBACH of Mercedes-Benz to have consumers experience its unique texture. A similar example can be found from Gresso, a Russian mobile phone company introducing a high priced luxury mobile phone, Black Aura Collection, which is made of gold and African Blackwood. Samsung Electronics recently launched 'Haptic Phone’, which was written and pronounced in English for its label and advertisement. The introduction of Haptic Phone made Korean consumers aware of the salience of textual feature of the mobile phone and enjoy touch experience when they use it. The increasing role of touch experience in the consumer’s interaction with product is noticed even in the virtual space in which textual information is conveyed through multimedia application by the aid of computer technology (Anthes 2008; Boll 2006; Brewster, Chohan, and Brown 2007; Cleaveland 2006). These instances evidence that marketers began to acknowledge that the sense of touch is a means of better communication and direct interaction with consumers to enhance utilitarian values as well as hedonic values by providing rich information of product and an opportunity to experience emotions (Hekkert 2006).

In the context of consumer behavior, a stream of research has addressed interpersonal touch between a sales person and a customer with respect to the affective state and evaluative judgment that are accompanied by the touch experience (Erceau and Guéguen 2007; Fisher, Rytting, and Heslin 1976; Guéguen 2002; Guéguen, Jacob, and Boulbry 2007; Hornik 1992; Smith, Gier, and Willis 1982; Stephen and Zweigenhaft 1986). Another stream of research addresses the consumer’s touch experience of a product with regard to its role in the non-evaluative and evaluative judgments (Krishna 2006; Krishna and Morrin 2008; Peck and Childers 2003a; 2003b; Peck and Wiggins 2006). Past studies that were conducted in the non-evaluative context found the effect of touch experience on the perception of geometric and physical-chemical properties of an object (Heller 1982, 1989; Lederman, Klatzky, and Barber 1985; Lederman, Thorne, and Jones 1986; Lederman and Klatzky 1987).

On the other hand, in the evaluative context, Peck and Childers (2003a; 2003b) showed that consumers differ in their preferences for the extraction and utilization of touch related attributes for product evaluation and that haptic information increases confidence in the product judgment particularly for high need-for-touch consumers. Krishna and Morrin (2008) suggest that the quality of nondiagnostic haptic cues affects product judgment when consumers have less capacity to recognize that the haptic information is not relevant to the product judgment. Peck and Wiggins (2006) found that, for those who have high need for touch, the valence of sensory
feedback provided by touch experience that did not convey product attribute information influenced affective responses, which in turn affected attitudes toward brand.

In sum, studies of touch experience that were conducted in the context of product evaluation suggest that sensory feedback of touch experience conveys diagnostic or nondiagnostic product information and evokes affective experience; and that the informativeness and the valence of sensory feedback influence product evaluation and judgment. However, despite recent studies uncovering the effect of touch experience on the consumer’s evaluation and judgment, systematic investigation has been little conducted for the psychological process that the evaluative implication of sensory feedback and the affective response to touch experience influence consumers in forming attitudes toward the brand.

This thesis aims to investigate the psychological process that the sensory feedback of touch experience evokes affective and cognitive responses and in turn affects product judgment. From a categorization perspective, this thesis argues that sensory feedback of touch experience activates a corresponding sensory category as well as a product category and that global affects and evaluative implications associated to the category are retrieved and influence product judgment. This thesis further suggests moderating variables that influence the activation of sensory category as well as product category and the consequence of categorization on the evaluative judgment.

In the next section, nature of tactile experience is discussed with respect to definitions of relevant constructs including tactile sensation, followed by the discussion delineating sensory categorization from product categorization. In the third section, research hypotheses are developed with regard to the moderator of categorization and category-based judgment. In the final section, methodological issues of hypothesis testing are discussed.

THEORETICAL BACKGROUND

Tactile Sense and Visual Sense

Some researchers investigated the interaction between tactile sense and visual sense in the experimental context, where the sensory perception of blind subjects is compared with that of sighted subjects (Heller 1989; Easton, Greene, and Srinivas 1997 etc.). Tactile sense differs from visual sense in terms of perception. Although both tactile sense and visual sense provide a similar sensory feedback for the perception of coarse texture, tactile sense has an advantage in perceiving finer texture (Hollins et al. 2002). While tactile sense functions better at encoding the physical-chemical property of two dimensional surface, visual sense functions better at encoding the geometric property of two dimensional picture or pattern (Klatzky, Lederman, and Reed 1987). Whereas visual sense processes structural and contour information and thus is more related to the perception of geometric property of object, tactile sense processes the information pertaining to the substance and physical-chemical property of object (Heller 1989). However, this does not exclude the role of tactile sense in the geometric configuration nor exclude the role of visual sense in perceiving physical-chemical properties.

The two modalities may interact with each other by the one serving to calibrate the other modality (Knudsen and Knudsen 1989). However, there is a fundamental difference between visual and tactile processing of information. For instance, in the geometric configuration, visual processing involves the spatial integration of static information whereas tactile processing
involves the integration of information that evolves over time (Henriques and Soechting 2005, p. 3041). The neural mechanisms of tactile and visual information differ from each other. Although the neural substrates for the processing of tactile information have not been well delineated, it is most likely to occur in parietal cortex (Goodwin and Wheat 2004). On the other hand, visual sense of geometrical shapes is more related to the activity of neurons in inferior temporal cortex (Logothetis 1998).

**Touch Experience**

Touch refers to using one’s skin to have a physical contact with an object, while the sense of touch involves arrays of different nerve types and sensing elements to relay a whole body experience, resulting in the perception of the object in terms of its force, position and size, softness/hardness, roughness, and texture (Dargahi and Najar 2004). While the physical contact with an object is made by hands and arms, legs, and mouth and tongue (Robles-De-La-Torre 2006), people mostly use their hands to touch and have a feel of an object, as is reflected by Kant saying, “Hand is our brain” (Paterson 2005). Touch is distinguished into passive touch and active touch. Passive touch refers to the stimulation of skin by the pointy end of a sharp object or by the movement of an object without joints or muscles of the body, whereas active touch includes movement of person’s body to touch an object and is accompanied by the sense of skin such as cutaneous sensation, the sense of balance such as proprioception, and the sense of movement such as kinesthesis (Gibson 1962; Lederman and Klatzky 1987).

Haptic, from the Greek word ‘hapthesthai’, means ‘relating to the sense of touch or tactile sensations’ (Oxford English Dictionary 1989); and haptics or haptic sensing refers to the active seeking and pickup of information by the hands (Peck and Childers 2003) or the extraction of information about an object’s properties such as its size, shape, and texture by means of exploratory manual movements (Henriques and Soechting 2005). Haptic sense is an exploratory procedure of contact and movement between skin and object, which is spontaneously chosen for execution when information about properties of the object is desired (Klatzky, Lederman, and Matula 1993).

While haptic sense is a comprehensive concept of the sense of touch, including cutaneous sensation, proprioception, kinesthesis and even vestibular sense (Klatzky, Lederman, and Reed 1987; Paterson 2005), tactile sense pertains to the cutaneous sense including sense of pressure, sense of temperature, as well as sense of pain (Prytherch and Jerrard 2003; Paterson 2005; 2007; Robles-De-La-Torre 2006; Wade 2003). While tactile sense is the primary information-processing tool in which external stimulus is simply processed by sensitive cells of the nervous system, tactile sensation refers to information processing from multiple sensory organs to the brain (Morley 1998). Tactile sensation results in tactile perception as well as tactile experience: the former refers to the determination of the physical property of an object such as its geometric configuration as well as physical-chemical attributes, whereas the latter refers to the affective response to the physical property (Sonneveld 2004).

In sum, although both haptic sense and tactile sense refer to active touch by hand, the former is a more comprehensive concept than the latter, which focuses on the sense of geometrical and physical-chemical properties of object. Although some researchers use haptic and tactile interchangeably, the present thesis adopts to use tactile sense for the purpose to address its consequences in terms of tactile sensation, which is manifested by sensory feedback.
of geometrical and physical-chemical characteristics of the tactile stimulus as well as their associates in terms of symbolic meanings and hedonic experiences.

Dual Categorizations of Tactile Sensation

Once the tactile stimulus is registered on the sensory system and is processed, sensory feedback is primarily described in terms of geometrical and physical-chemical characteristics of the object such as thick, rough, and cold. The primary sensory feedback retrieves prior tactile experiences and evokes quality-related thoughts, aesthetic evaluation, social meanings, and emotional state that are associated with the primary sensory feedback (Isaksson 2007; Klatzky, Lederman, and Reed 1987). Past studies of tactile texture showed that perception of texture is a synthesis of the physiological and psychological responses and the impression of geometrical configuration as well as physical-chemical attributes of the texture (Picard, Dacremont, Valentin, and Giboreau 2003; Zuo, Hope, Castle, and Jones 2001; Zuo, Jones, and Castle 2004). While the geometrical and the physical-chemical characteristics are primary parameters describing the object with which a person interacts by tactile sense, other parameters are also included in the description of the object such as emotions (comfortable, depressing, and dull etc.) and personality traits (elegant, mean, and blunt etc.) that are associated with the primary parameters (Picard et al. 2003; Sonneveld 2004: Zuo et al. 2004).

Whereas the sensory modality of touch differs from other sensory modalities such as vision, smell, sound, and taste, it is questionable to argue that the tactile sense is distinct and unique, not being fused with other senses by the cognitive faculty of human being. The contention that five senses of human body are discrete because of their separate inlets appears to be obvious from the point of view that senses are passive receptors of stimulus that has a quality external to the mind, but the contention is challenged by the point of view that human receives the world through cognitive translation of the sensory experience into a coherent whole (Cazeaux 2002). Based on the phenomenology of Merleau-Ponty, who develops Kantian thesis that reality and the person’s perception of it are interconnected, Cazeaux (2002) argues that senses are not necessarily distinct but are internally coordinated within the body schema, which refers to a framework of intentionality whereby consciousness and the world are opened up for each other. Cazeaux furthers that the sensory intersection enables human to represent a stimulus through the sensory modality inherent in the stimulus as well as other sensory modalities on which the stimulus is not inherently registered. For instance, when the tactile experience of the surface of mobile phone results in the inherent tactile sensation of physical-chemical properties in terms of ‘hard and smooth’, the sensory feedback is likely to be brought into the perception of a coherent whole that includes other sensory feedbacks that are not inherent in the tactile experience such as being scentless, moving fast, and sounding breezy.

To sum up, while the primary sensory feedback on touch experience is centered on the geometrical and physical-chemical characteristics inherent in the tactile sensation, it is translated to organize a coherent whole that consists of both the primary sensory feedback as well as other secondary sensory feedbacks that are not inherent in the tactile sensation but are linked to the primary sensory feedback. Both the primary sensory feedback and the secondary sensory feedback serve a cue to activate corresponding symbolic meanings and emotions. For the previous example of mobile phone, the primary and secondary sensory feedbacks may be associated with symbolic meanings of ‘contemporary’ and emotional state of ‘calm’.

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According to the model of categorization based on connectionist network, each of the primary and secondary sensory feedbacks, symbolic meanings, and emotions represents the input to an input node of a network in memory and, in turn, are connected to an output node, which corresponds to a category (Shanks 1991). This model of categorization implies that, while the input nodes correspond to a set of competing categories, selection of category depends on the associative strength between each input node and its corresponding category. To the extent that the category shares similarities with the tactile stimulus in terms of properties, symbolic meanings, and emotions, the tactile stimulus is likely to be classified into the category (Cohen and Basu 1987; Mervis and Rosch 1981). For the previous example of mobile phone, if tactile sensation results in input nodes whereby most of them are strongly associated to the category of ‘plate glass’ while a few input nodes being associated to the category of ‘lumber’, then the greater perception of similarity between the surface of mobile phone and the category of ‘plate glass’ is likely to result in the classification into the ‘plate glass’ category.

Past studies of tactile texture found that tactile descriptors included identifying characteristics in terms of entities or objects that existed in prior experiences in addition to the geometrical and physical-chemical characteristics and emotional associates. Perception of identifying characteristics, referring to the overall feel of a surface such as ‘leatheriness’ or ‘rubberiness’, is distinguished from perception of qualities, referring to the properties of a surface such as ‘roughness’ and ‘hardness’, and depends on particular combinations of qualities (Hollins, Rao, and Young 1993). In the study of Zuo et al. (2001), participants touched pieces of material such as aluminium, plastic, ceramic, and rubber and then were asked to describe the material surface they touched. The participants produced various words that were grouped into four dimensions such as geometrical dimension, physical-chemical dimension, emotional dimension, and associative dimension, which refers to existing things in the perceiver’s prior experience such as matt-like, honeycomb-like, and animal skin-like etc. In the study of Picard et al. (2003), when participants were asked to describe their tactile impressions of various fabrics encountered in everyday life, they produced physical-chemical characteristics (e.g., soft, harsh, and light etc.) and hedonic emotions (e.g., pleasant and unpleasant) as well as identifying characteristics (e.g., cotton, wool, and velvet etc.). Furthermore, the mean order that each descriptor was produced indicated that identifying characteristics came to the participants’ mind after they accessed successively different physical-chemical characteristics. This implies that the sensory feedback in terms of physical-chemical characteristics is likely to represent an input node that connected to an output node corresponding to a category in terms of identifying characteristics.

While tactile sensation provides an input of the aforementioned categorization, which is termed as sensory categorization, it is also likely to serve an input of traditional product categorization. The literature indicates that experiential data such as sensory experience data are viewed as nonpartisan and unambiguous and are more convincing and influential than verbal information (Hoch 2002; Loken 2006 for review), implying that tactile sensory feedback is likely to outperform other features that compete to serve an input of product categorization. This does not suggest that the sensory feedback in terms of geometrical and physical-chemical properties alone determines a category to be activated. Instead, both the primary sensory feedback and other product features or attributes will be rendered to the similarity judgment with corresponding categories. The category in which the product is to be classified may be determined by the perceived similarity of the primary sensory feedback as well as other product features to the
category’s prototype, which refers to a set of features commonly associated with members of a category, or the most representative exemplar of a category (Cohen and Basu 1987). Going back to the previous example of the surface of mobile phone, the tactile sensation may activate ‘durable/dependable mobile phone’ category to the extent that the primary sensory feedback of ‘hard and smooth’ are associated to the category.

In sum, the present thesis argues that tactile sensation of a product beckons dual categorization processes such as sensory categorization and product categorization. While both categorization processes are common in making use of tactile sense, sensory categorization results in the classification of the product into the category of identifying characteristics or object that shares similarities with the primary and secondary sensory feedbacks as well as symbolic and emotional associates, whereas product categorization results in the classification of the product into an existing product category that shares product features including the primary sensory feedback. That is, for the previous example of mobile phone, the tactile sensation of ‘hard and smooth’ may activates two categories such as the sensory category of ‘plate glass’ and the product category of ‘durable/dependable mobile phone’.

In the following section, it will be argued that both the sensory category and the product category contribute to formation of brand attitude through the transfer of affect attached to the activated category and/or through cognitive inference based on the features that are included in the activated category. I will further to suggest that, in forming brand attitude, the influence of sensory categorization and product categorization varies across consumers depending on the motivation to use tactile sense and the expertise with tactile sensation as well as the expertise with the product (Figure 1).

**Figure 1 Conceptual Framework**

RESEARCH HYPOTHESIS

Categorization and evaluation are likely to be intertwined from the very formation of the category in the sense that a category consists of not only discriminating subsets but also evaluative subsets, implying that evaluation of a product is influenced by whether it is identified as a member of the category (Cohen and Basu 1987, p. 456). The literature suggests that product judgment is assimilated to the category when the product is represented as a member of the category (Mussweiler and Damisch 2008; Schwarz and Bless 1992). This implies that the evaluative response to the product has a positive relationship with the evaluative response to the
category and its constituents. The positive relationship is based on the affective process in terms of affect transfer and/or the cognitive process in terms of cognitive inference. For affect transfer, when the product is successfully categorized as a member of a category, an already formed, global affective reaction to the category may be retrieved and applied to the product. For cognitive inference, when the product is successfully categorized as a member of a category, the evaluative inference for the product features is based on the evaluative implication of the category features in the direction of assimilation to the category (Loken 2006 for a review).

Thus, it is predicted that, once tactile stimulus is recognized to correspond to an existing sensory category or product category, the evaluative response to the tactile stimulus has a positive relationship with the evaluative response being attached to the category.

H1a: Attitude toward an existing sensory category with which the tactile sensation of product is identified has a positive influence on the brand attitude.

H1b: Attitude toward an existing product category with which the tactile sensation of product is identified has a positive influence on the brand attitude.

Peck and Childers (2003b) suggest that tactile processing is driven by two distinct motives for touch experience: one is autotelic need for touch, which refers to the motivation for touch of itself, and the other one is instrumental need for touch, which refers to the motivation of outcome-directed touch with a salient purchase goal. Autotelic need for touch is a reflection of implicit motives, which are largely non-conscious and mediate positive affective experiences associated with activities, whereas instrumental need for touch is a reflection of explicit motives, which serve the function of representing conscious goals and duties (McClelland, Koestner, and Weinberger 1989). Whereas autotelic need for touch is related to the preference for authotelic tactile information, referring to the information to be used for sensory appreciation or hedonic experience of the product, instrumental need for touch is related to the preference for instrumental tactile information, referring to the information to be used for the evaluation of product quality and for the purchase decision (Peck and Childers 2003). This line of thoughts imply that tactile sense driven by autotelic need for touch is likely to be accompanied by spontaneous elicitation of the secondary sensory feedback as well as symbolic meanings and emotions that are associated to the sensory feedbacks, resulting in the spontaneous engagement in sensory categorization. On the other hand, tactile sense driven by instrumental need for touch is likely to be accompanied by the spontaneous search for information that enables to associate the tactile information to the evaluative judgment of product quality or functioning, resulting in the spontaneous engagement in product categorization based on the primary sensory feedback.

Thus, it is predicted that personal difference in the motive for touch experience influences the way that tactile information is processed with respect to corresponding sensory categories and corresponding product categories.

H2a: Those who have a strong autotelic need for touch are more likely to activate sensory categories based on the tactile stimulus than those who have a weak autotelic need for touch.
H2b: Those who have a strong instrumental need for touch are more likely to activate product categories based on the tactile stimulus than those who have a weak instrumental need for touch.

It is also predicted that the stronger engagement in the categorization process is reflected by the greater influence of the evaluative response attached to the corresponding category on the evaluative response to the product in the direction of assimilation.

H2c: The positive influence of attitude toward an existing sensory category, with which the tactile sensation of product is identified, on the brand attitude is greater for those who have a strong autotelic need for touch than for those who have a weak autotelic need for touch.

H2d: The positive influence of attitude toward an existing product category, with which the tactile sensation of product is identified, on the brand attitude is greater for those who have a strong instrumental need for touch than for those who have a weak instrumental need for touch.

According to the categorization theory, spontaneous classification of a new stimulus into a category requires that well organized category knowledge is stored in memory and is retrieved spontaneously from memory (Cohen and Basu 1987; Ozanne, Brucks, and Grewal 1992; Susan 1985), indicating that product categorization process is enhanced by the expertise to interpret sensory feedback in relation to product features and evaluate match or mismatch to existing categories (Selnes and Howell 1999). In a similar vein, sensory categorization is less likely to occur when the consumer is not familiar with the tactile stimulus and/or when s/he does not have associates that are connected to the primary sensory feedback in terms of the geometrical and physical-chemical characteristics. The literature noticed personal differences in the ability to process sensory stimulus and the ability to describe sensory perceptions (Childers, Houston, and Heckler 1985), implying the existence of personal differences in the accessibility of corresponding sensory categories against which the sensory feedback is compared. Thus, the classification of sensory stimulus into an existing sensory category is likely to depend on the personal difference in the expertise to process tactile information.

It is predicted that personal difference in the ability to process tactile information in relation to product-related features is related to the activation of corresponding product categories, whereas personal difference in the ability to process the primary sensory feedback in relation to its symbolic and emotional associates is related to the activation of corresponding sensory categories. I suggest the following hypotheses, given the premise that the ability to process tactile information in relation to product-related features is reflected by expertise with the product and that the ability to process tactile information in relation to symbolic and emotional associates is reflected by expertise with tactile sensation.

H3a: Those who have an expertise in tactile sense are more likely to activate sensory categories based on the tactile stimulus than those who do not.

H3b: Those who have an expertise with the product are more likely to activate product categories based on the tactile stimulus than those who do not.
It is also predicted that the positive influence of attitude toward an existing category on the brand attitude is influenced by the spontaneous activation of corresponding categories.

H3c: The positive influence of attitude toward an existing sensory category, with which the tactile sensation of product is identified, on the brand attitude is greater for those who have an expertise in tactile sensation.

H3d: The positive influence of attitude toward an existing product category, with which the tactile sensation of product is identified, on the brand attitude is greater for those who have an expertise with the product.

**METHODOLOGY**

**Procedures**

**Pretest I**
- Provide materials without associating mobile phone
  - Ask to describe each material in terms of sensory feedbacks, symbolic, and emotional associates, and objects
  - Get a list of most frequently mentioned items
- Provide materials while associating mobile phone
  - Ask to describe each material in terms of product features, benefits, and brands
  - Get a list of most frequently mentioned items

**Pretest II**
- Provide materials without associating with mobile phone
  - Ask to rate each material in terms of sensory feedbacks, symbolic, and emotional associates, and objects
  - Find sensory categories by conducting MDS and Correspondence Analysis
- Provide materials while associating with mobile phone
  - Ask to rate each material in terms of features, benefits, and brands
  - Find product categories by conducting MDS and Correspondent Analysis

**Pretest III**
- Provide sensory categories as well as product categories and ask to evaluate them
  - Have a positively (vs. negatively) evaluated sensory category as well as product category

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THE FRUGAL AND THE ENVIRONMENTALLY CONCERNED:
WHO ARE THEY, WHAT DO THEY DO, AND HOW DO YOU
INFLUENCE THEM?

Rand Eric Wergin, Oklahoma State University

Being frugal does not mean being cheap! It means being economical and avoiding waste.
--Catherine Pulsifer

We could have saved the Earth but we were too damned cheap.
--Kurt Vonnegut, Jr.

INTRODUCTION

Two important consumer segments for marketers to consider are the environmentally concerned and the frugal (Fujii 2006; Mintel International Group Ltd. 2006). Environmentally concerned consumers have received much attention in the past (Ellen et al. 1991; Kilbourne and Pickett 2008), and their needs have influenced the firm through topics such as green marketing (Schlegelmilch et al. 1996) and sustainability (Olander and Thogersen 1995). Research on the frugal consumer is more sparse (Lastovicka et al. 1999), yet recent changes in the United States’ economy may be reawakening an interest in frugality. Many communities find that their second-hand and used goods businesses are seeing increases in sales (Simpson 2009). In addition, through a remarkable turn of fortune, Americans seem to be saving more of their income as consumers switch their behaviors from spending to saving (Rankin and Leary 2009). In this paper, I investigate the characteristics of the frugal and the environmentally concerned. In addition, I employ an experimental methodology to assess the persuasive efforts of divergent communications on the two segments.

Interestingly, both consumer lifestyles played a prominent role in the 2008 Presidential elections where the economy, energy, and the environment were among the important issues discussed by the candidates, and these issues were not new to the American or world forum. For example, environmental concern (EC) has been an important facet of business and politics in the United States for more than 100 years. President Teddy Roosevelt was an early champion of environmental stewardship and conservation (Brulle 1996). His environmental palmares include the creation of Yellowstone National Park and sponsoring the formation of the US Forest Service under Gifford Pinchot. Two more recent events continued the development of environmental stewardship (Dunlap and Van Liere 1978). The first was Rachel Carson’s book Silent Spring published in 1962 and the second was the inaugural Earth Day celebrated in 1970. Both of these events pushed the environmental movement from the fringe of society into the mainstream of American and world culture. As such, the market serving environmentally concerned consumers has grown to an estimated $200 billion in 2006, with future growth expected (Mintel International Group Ltd. 2006).

On the other hand, frugality has been an important part of the marketplace for centuries and is common to many of the world’s religions (Lastovicka et al. 1999). Witkowski (1989) suggests that it is a major facet of life in the United States with rich historical and cultural roots. For example, Massachusetts and Pennsylvania adopted sumptuary laws (taxes on extravagant living) during the Colonial period because political and civic leaders were concerned about the
excessive and materialistic lifestyles being imported from Europe. In addition, Colonial leaders preached the “Puritan work ethic” of discipline, hard work, and sacrifice. Today, social and cultural organizations such as the Boy Scouts promote thrift and frugality as features of good character and citizenship (Bernthal et al. 2005; De Young 1986).

Yet during times of economic expansion, frugality and thrift are not popular or promoted concepts. It seems that when the economy is strong, frugality is forgotten. However, during times of recession or depression, or during times of national crisis, such as a war or famine, frugality is promoted as both a prevention and a remedy (Witkowski 2003). As such, Todd and Lawson (2003) describe frugality as a fashion idea that is cyclical and comes in and out of style. Today, many consumers are adopting frugal habits due to concerns over energy and food prices. Firms are responding in kind by offering products to meet those needs. For example, firms as diverse as consumer electronics manufacturers and homebuilders are adding basic no-frills products to their product lines to attract those interested in simple, smaller and more efficient products (Lawton 2008; Lin 2008).

**Environmental Concern and Frugality as a Personality Trait**

Guber (2003) proposes that EC is a personality trait that is indicated by attitudes toward specific environmental problems (e.g. air pollution or wildlife protection), support for government spending on environmental protection, knowledge about environmental issues, preference for environmental policy, and self-reported participation in environmentally responsible activities like recycling or energy conservation. In contrast, Lastovicka et al. (1999) define frugality as a lifestyle trait reflecting disciplined acquisition and resourcefulness in product and service use. While these definitions describe two different segments, we see that frugal and environmentally concerned consumers are quite similar in many ways (Fujii 2006; Lastovicka et al. 1999). For example, EC and frugal consumers share many of the same behaviors, such as recycling (Leonard-Barton and Rogers 1980), reduced energy consumption (Fujii 2006), and reduced material consumption (Kilbourne and Pickett 2008). Although they share these behaviors, the motivations to perform these behaviors seem to differ. EC consumers would suggest that they choose to recycle because it is important to preserve and maintain the world’s resources, while frugal consumers might suggest that they practice recycling behavior because it helps preserve and maintain one’s financial resources. Therefore, it seems that while both the behaviors of EC and frugal consumers may be similar, the incentives for their behaviors differ. I propose that an examination of their similarities and differences is necessary to develop a more thorough understanding of these two consumer segments.

**Research Questions and Design**

This paper seeks to advance our understanding of these two important consumer segments by comparing and contrasting EC and frugality. Previous research on EC and frugality often mention the other in a cursory way, but do not specifically address both in tandem. Four research questions are proposed to address this gap in the literature:

1. What are the psychometric properties of a scale designed to measure EC construct developed by Dunlap and Van Liere (1978)?
2. Do frugal and EC consumers have different trait motivators?
3. Do frugal and EC consumers have different behavioral consequences?
4. Do frugal and environmentally concerned consumers respond differently to consumption related messages?

To answer these questions, three studies are proposed. The first study will assess the psychometric properties of the EC construct. The second study builds on the first and investigates the trait antecedents and consequences of EC and frugality. The third study is a pair of 2x2x2 experiments to determine if frugal and environmentally concerned consumers will respond differently to consumption-related messages.

Contribution to the Literature

The contributions of this research include expanding our knowledge of these two important and influential consumer groups. While previous researchers have noted similarities between the consumer orientations of frugality and EC, little has been done to specifically address the similarities, differences, and consumer behavior implications of the two. The results of this research will benefit managers and public policy leaders by providing tools for promoting sustainable behavior in their communities and increase their firm’s exposure to the sustainable consumer market.

LITERATURE REVIEW

Within the academic literature, researchers have developed constructs to measure people’s propensity to be frugal (e.g., Lastovicka et al. 2001; Mowen 2000), and to be ecologically minded (e.g., Dunlap and Van Liere 1978). The various attempts to quantify the segments have included demographic, psychographic, and behavioral methods. In addition, conceptualizations of the constructs themselves have included assessing them as values, beliefs and social norms.

Importantly, researchers have not attempted to simultaneously investigate and test the relationships among the measures of frugality and environmental concern. The background material in this literature review will establish the logic for placing the three constructs in a proposed nomological net in chapter three. This chapter is dedicated to describing each of the three constructs in detail.

Environmental Concern

This review of environmental concern will attempt to outline the various perspectives and features of the environmentally concerned consumer segment. The review begins with a brief historical sketch of EC. Then an outline will be presented of the attempts to categorize EC consumers demographically, psychographically, and behaviorally. Finally, a brief discussion regarding the impact education has on environmental concern, and a review of the NEP scale will be presented.

Roots of Environmental Concern

The roots of the modern EC movement began in 1962 when Rachel Carson published her book *Silent Spring*. The book addresses the environmental consequences of the widespread use of DDT. DDT is an insecticide that was heralded as a marvel of modern chemistry for its ability to kill insects, yet leave vertebrate life unharmed. However, DDT is dangerous to those creatures further up the food chain, in this case, the songbirds that eat the insects. Although direct application to invertebrates was not deemed to be dangerous, the animals that ate the insects
treated with DDT were harmed. Carson noted that songbird populations were dropping in areas exposed to DDT. Carson foresaw a spring where there were no songbirds to sing songs due to the bird’s eradication via DDT. As a result of her research, the U.S. government banned the use of the pesticide DDT, and the world started to pay attention to the environment.

Since the arrival of EC as a prominent research area, defining the construct has been one of the most persistent challenges for researchers (Diamantopoulos et al. 2003; Van Liere and Dunlap 1981). Various scholars conceptualize EC as an attitude, a behavior, a belief, or all three. For example, Kinnear et al. (1974) propose that EC is made of two components: attitude and behavior. They suggest that a buyer's attitude should express concern for ecology and the purchasing behavior that is consistent with intentions to maintain the environment. Maloney et al. (1975) propose that EC is a diverse set of ideas that include attitudes toward specific environmental problems. Crosby et al. (1981) proposes that EC is a set of strong positive attitudes toward preserving the environment. deHaven-Smith (1988) suggests that EC is a collectively held belief system that is fragmented and narrowly focused on mundane irritants such as local pollution and litter. This diversity of definitions suggests that term EC is vague, and that vagueness has inhibited the scholarly development on the topic (Dunlap and Jones 2002).

For this research, I will use the Guber (2003) conceptualization of EC as an underlying consumer trait that is marked by attitudes toward specific environmental problems (e.g. air pollution or wildlife protection), support for government spending for environmental protection, knowledge about environmental issues, preference for environmental policy, and self-reported participation in environmentally responsible activities like recycling or energy conservation.

As it has been difficult to quantify environmental concern, so too, has it been challenging to develop a viable green or environmentally concerned market. Heiskanen (2005) proposes that green consumption patterns are different than traditional consumption patterns. First, traditional consumer policy helps the consumer acquire as much as he wishes, whereas sustainability sometimes requires a reduction of consumption (Tonner 2000). Second, the primary benefits that green consumers actively seek are different than a traditional consumer.

Those benefits can be classified in four categories. First, the products ought to be healthy and safe to all living things (not only the human consumer). Second, the products ought to be competitively priced. Third, the products ought to be convenient to purchase and use, and should perform as well or better than non-green products. Finally, green products ought to carry their own sort of symbolism or green cachet (sort of a green conspicuous consumption) (Ottman et al. 2006).

Part of the challenge in developing a viable green market is that consumers have shown that they are unwilling to compromise on key product attributes such as convenience, availability, price, quality, and performance (Crosby et al. 1981; Ginsberg and Bloom 2004; Meyer 2001). In addition, consumers are wary of firms that say they are “green” but instead use the term as a marketing tool to attract consumers without actually adopting an environmental stewardship orientation (Carlson et al. 1993). This phenomenon has often been called “green washing.”

Even though it has been challenging to develop the sustainable market, there are indications that the green market is potentially large and profitable (Mintu-Wimsatt and Bradford...
1995; Tucker 1980). Even the mainstream consumer professes some green behavior: seventy percent of consumers said that a product or package’s recyclability has affected their purchase decisions (Ottman 1993). The marketing research firm Mintel International group suggests that the green market in 2006 was $200 billion, and they predict more growth in the future (Mintel International Group Ltd. 2006).

The following is a review of the various perspectives researchers have assumed as they attempted to understand, define and categorize individuals who are environmentally concerned, and who show environmentally motivated behaviors. Those perspectives include demographics, behavior, and attitudes and beliefs.

**Characteristics of the Environmentally Concerned Consumer**

Early research attempted to define the EC consumer demographically. Although demographics has shown little practical significance, it was generally found that age, income level, socio-economic status, gender, and education make a difference in whether a consumer exhibits EC opinions and behaviors (Diamantopoulos et al. 2003; Getzner and Grabner-Krauter 2004; Granzin and Olsen 1991; Laroche et al. 2001; Van Liere and Dunlap 1980). Most of the research suggests that those who practice EC have a higher education level, are younger, urban, and more likely to be female. In addition, people living in single-family homes are more likely to exhibit EC attitudes than those living in apartments (Berger 1997; Van Liere and Dunlap 1980) and those who own single family homes are more likely to be environmentally concerned than those who rent single family homes, (Barr et al. 2005). This may be due to the long versus short-term outlook between owners and renters. In addition, Van Liere and Dunlap (1980) suggest that there is a difference in the level of environmental concern between rural and urban residents. They found that that those in a rural community are more likely to be dependent on the use of the natural environment via extraction industries such as farming, logging or fishing, whereas urban residents are often less economically dependent on jobs associated with the extraction of natural resources.

Research has also noted that attitudes change as people become aware of or educated about environmental problems (Schwepker and Cornwell 1991). As such, the more a person is aware of and knowledgeable about environmental issues the more likely they are to be environmentally conscious. One of the attitudes noted by researchers involves materialism and consumption. Environmental concern proponents take the position that a sustainable economy will not be achieved until consumers shift consumption patterns and reduce consumption levels (Fuchs and Lorek 2005). Shifting those consumption patterns requires equipping individuals with the knowledge of the importance of green issues and identifying activities that are effective in addressing those issues (Heckler 1994; Olander and Thogersen 1995). For example, teaching people that environmental degradation is a problem is just as important as teaching them that recycling is an effective activity to remedy the problem of environmental degradation.

Therefore, the messages used to educate and teach consumers about green issues are important. Research has found that these messages should be personally relevant to the audience (Heckler 1994) and positively framed (Lord 1994). It appears that green messages suffer from a perception problem where low consumer trust decreases the effectiveness of an environmentally framed message (Osterhus 1997). In addition, the theme of the message will also influence its persuasiveness. Claims that brag about the environmental benefits of products are often
considered misleading and deceptive, as are messages that are designed to enhance the environmental image of an organization (Carlson et al. 1993).

As such, marketers and brand managers have discovered that an important messaging tool to communicate to EC consumers is the product label. Thogersen (2000) found that environmentally concerned consumers are avid readers of product labels. This affinity for reading labels is prompted by a desire to protect the environment, and the need for accurate information that assists in that goal. Therefore, the propensity to read labels is moderated by a consumer’s trust in the label’s accuracy. These findings suggest that EC consumers have a desire for information to both measure the efficacy and the informational content of the label. In addition, Grankvist et al.’s (2004) research indicates that labels with an environmental or green theme positively affect the purchase behavior of EC consumers, but those same labels will not affect the purchase behavior of non-EC consumers. Thus, this finding suggests that environmental themes are not influential to a non-environmentally concerned consumer.

In conclusion, these demographic studies have revealed a confusing collection of factors that show statistical significance, yet their practical significance has been generally weak and sometimes inconsistent. The variety of results that researchers have realized searching for the demographic profile of an EC consumer has caused some to suggest that demographics might not the best predictor of EC behavior (Cornwell and Schwepker 1995; Pickett et al. 1993; Schwepker and Cornwell 1991). Therefore, some researchers have focused their efforts on identifying the behavioral manifestations of environmental concern.

Beliefs and Attitudes of the Environmentally Concerned Consumer

Where the attempts to define environmentally concerned consumers demographically has been difficult, other research has attempted to categorize EC consumers through their antecedent beliefs and attitudes (Hopper and Nielsen 1991; Schwartz 1970; Widegren 1998). Some suggest that these are better at predicting EC behavior than the socio-demographic indicators (Kinnear et al. 1974; Schlegelmilch et al. 1996; Schwepker and Cornwell 1991). Pro-environmental attitudes and dispositions are complex and multidimensional (Cleveland et al. 2005), yet some consistent findings have emerged. Prior research has revealed that EC attitudes fall into six broad categories including self-efficacy, altruism, connectedness to nature, a concern for the future, and a desire to limit economic development (Bohlen et al. 1993; De Young 1996; Ebreo and Vining 2001; Johnson and Johnson 1995; Schultz 2000; Schwepker and Cornwell 1991).

To begin, research suggests that EC consumers have an internal locus of control, or an attitude that they are not a victim of fate, but are accountable for their actions, and can shape their future (Schwepker and Cornwell 1991). This attitude of self-efficacy is analogous to perceived consumer effectiveness (PCE), or an individual’s belief that their actions make a difference (Barr 2007; Berger and Corbin 1992; Kinnear et al. 1974; Roberts 1996). PCE suggests that those who engage in environmentally concerned behaviors believe that their efforts make a difference to them and to the larger environmental movement. In addition, EC proponents report that they are intrinsically motivated by feelings of empowerment, competence, and satisfaction (De Young 1996). As such, firms and public policy makers can encourage this attitude through messages that remind consumers that their actions make a difference both corporately, and individually (Ellen et al. 1991; Henion and Wilson 1976)(Schwepker and Cornwell 1991). In addition, research suggests that affluence does not moderate the relationship
between environmental concern and goal setting behavior (Ebreo and Vining 2001). Both respond to the current degradation of their environment with a hope and desire to see it improve in the future (Dunlap and Mertig 1995).

Other research suggests that ethics and altruism are important facets of EC (Bohlen et al. 1993; De Young 1996), and this orientation contributes to a feeling of connectedness to nature. Connectedness to nature refers to a perception of equality between the self, others, and the natural world (Dutcher et al. 2007). This connection implies an attitude of shared destiny or fortune for both the person and the environment, where the person cannot survive without the environment. Therefore, humans are more stewards of the natural resources than owners of the resources. A feeling of empathy (Lee and Holden 1999) or of adopting another’s perspective is also part of environmentally concerned ethics. Much as the connection to nature fosters an attitude that decreases the dominance of humans, so too, does the feeling of empathy, where nature and the natural world almost become a persona that has a future and can be harmed or helped by our actions.

Schultz (2000) suggests that there are three distinct clusters of environmental attitudes: altruistic, egoistic, and biocentric. Altruistic attitudes are concern for others, egoistic is a concern for self, and biocentric attitudes are a concern for the environment. Schultz contends that these attitudes are founded on a concern for the negative consequences that could befall valued objects. These objects are valued because they are included in a person's cognitive representation of self. However, Ewing (2001) suggests that egoistic attitudes have more to do with environmentally concerned behaviors than do altruistic attitudes, where environmentally concerned individuals care for the environment more because it affects their own fortune and well-being, than the impact to the environment itself.

Altruism can also be seen in the norm of reciprocity, which suggests that consumers who are concerned about conservation and the environment are influenced by the expectations of the cooperative intentions of others; i.e. they are more likely to exhibit sustainable behavior when they expect others to also act in a similar way. However, consumers who are not concerned about conservation and the environment are less influenced by the cooperative intentions of others (Wiener and Doescher 1994). In other words, some consumers are liable to free-ride environmental benefits from those practicing EC behavior (Pickle and Wiser 1997) ushering in a tragedy of the commons situation where the potential benefits due to the restraint of some are erased by the excessiveness of others. In addition, some may hold two opposing attitudes at the same time (Ellen et al. 1991). For example, some believe that governments ought to take the lead in addressing environmental issues (Fraj and Martinez 2007), while others see it as a responsibility of the individual through grass-roots activism (Dunlap and Mertig 1995).

While the values and attitude perspective has found much support for the assertion that values and attitudes will predict behavior, there is also evidence that EC attitudes do not adequately predict EC behavior (Mainieri et al. 1997; Wiener and Doescher 1995). Simply put, people may feel that it is important to act in an environmentally responsible way, but their actions might not follow their attitudes or behaviors. The obstacles toward environmental behavior may be seen through structural impediments. For example, an environmentally concerned consumer may have a positive attitude toward bicycle commuting, and express a willingness to ride their bike to work. Yet they continue to drive because the community they
live in lacks safe cycling routes to work or their job does not have locker room or shower facilities. The environmentally concerned consumer chooses to drive because it is safer to drive a car, or more convenient to arrive at worked dressed in professional clothes, rather than showering and changing clothes once they reach their destination. Other obstacles toward environmental behavior may be a perceived lack of personal benefits for environmental behavior (Fujii 2006). In other words, a person may agree that recycling is beneficial to the community and to the health of the planet, but they may choose not to recycle because the reward for recycling does not directly affect them. In other words, the benefit is not salient or significant to the individual.

Finally, and to the chagrin of many business leaders, EC consumers profess a desire to limit economic development (Johnson and Johnson 1995). EC consumers perceive that development is the foe of the natural environment, and should be limited, regulated and restricted (Brulle 1996). This attitude has become strong and pervasive in many segments of today’s culture. This attitude has even appeared in popular culture. As an example, the prominent children’s author Dr. Seuss uses theme of unbridled development as the theme for one of his most prominent works, *The Lorax* (Geisel 1971).

**Behaviors of the Environmentally Concerned Consumer**

The behavioral manifestations of environmental concern fall into four broad categories: energy conservation, the purchase and use of green products, waste reduction, and use of green transportation systems (Balderjahn 1988; Ebreo and Vining 2001; Gilg et al. 2005; Roberts 1996). These behaviors will vary by individual (Frannson and Garling 1999), such that committed environmental consumers may actively pursue all of the above behaviors, and others will be selective and elect to participate only in those activities they deem important.

Examples of the first category of behaviors, energy conservation, are sometimes simple actions such as turning off the lights when one leaves the room or turning down the temperature on the thermostat in winter and turning it up in the summer. They can also be as sophisticated and involved as installing roof-top gardens on office buildings. These flat roofs offer an excellent opportunity for energy savings because the soil for the gardens is a natural insulator; the vegetation that is grown prevents the building from absorbing solar heat. In addition, the storm water runoff is reduced. This is a terrific benefit for both the owners of the building and the surrounding community, as it alleviates potential flooding and erosion from heavy rains. However, engineering the roof to support the weight of the soil, plants, and water can be a challenge, and it is difficult to repair a leaking roof with several inches of soil and vegetation. Other common examples of energy conservation include driving less, replacing high energy consumption appliances such as hot water heaters, drying laundry outside on a clothes line, and adding insulation to the home (Barr et al. 2005; Roberts 1996).

Second, the purchase and use of “eco” or green products also varies in its sophistication. It can be as simple as purchasing locally grown food from the farmer’s market. The advantages to this purchase behavior are that the food has minimal transportation costs, supports the local community and economy, and is often organically grown. On the other hand, the purchase of green products can also be as sophisticated as organizing a local coop of buyers willing to purchase and install a large wind powered generator or windturbine, as the citizens at Independent School District 704 in Proctor, Minnesota did in 2006. Other examples of
purchasing eco products include buying biodegradable cleaning agents or purchasing clothing made from natural fibers such as cotton or bamboo.

The third category of EC behavior is waste reduction. Waste reduction is as simple as buying less stuff and recycling, or choosing to repair and reuse an item rather than throwing it away. Recycling is an important behavior that is common to many consumers, not only those concerned with the environment (Berger 1997; Roberts 1996). For example, seventy percent of consumers said that a product or package’s recyclability has affected their purchase decisions (Ottman 1993). Recycling is useful because it is a sort of a gateway behavior that leads to other more committed EC behaviors (Berger 1997). Waste reduction behaviors also include composting, pre-cycling (intentionally purchasing products that can be recycled), fixing broken appliances and donating used goods to others.

The final category of EC behavior is transportation. It seems that the best exemplar of a green transportation system is the individual effort one can undertake to minimize the number of trips that they make in a car, especially those trips that only include the driver (Jain 2005). More efficient and environmentally sensitive transportation alternatives for local trips include carpooling, walking or riding a bicycle, and using public transportation such as busses, subways and trams. One of the most unfriendly transportation choices with regard to the environment is air travel. Long-distance travel in our world today has become the almost exclusive domain of the airplane. While air travel is unbeatable with regards to convenience and time efficiency, it is a terrific use of fossil fuel. More environmentally sensitive methods of long-distance transportation include trains and boats. While they use much less fuel per passenger than an airplane, they are slower, and less flexible regarding their routes and schedules.

Scales to Measure Environmental Concern

One of the criticisms with scales measuring EC knowledge is that environmental issues evolve. For example, yesterday’s issues such as pollution and animal extinction are not as prominent as global warming is today (Van Liere and Dunlap 1981). Kinnear and Taylor (1973) developed an early scale of EC, but used very specific items relating to laundry brands. While it worked well for their needs, it is not as easily transferred to other contexts. Kinnear et al. (1974) adapted a scale from that previous work, but also included behavior and attitude measures as a basis for EC, and Weigel and Weigel (1978) developed an early scale that continues to find some favor because it uses reported behavior to measure EC.

Arguably, the most well recognized scales to assess environmental concern is the New Environmental paradigm (NEP) scale developed by Dunlap and Van Liere (1978). Revised in 2000 (Dunlap et al. 2000), it is a 15-item, Likert format scale that assesses five facets of an ecological world view. The first facet is labeled limited growth--the belief that the earth’s natural resources are finite and will only support a limited number of people. The second facet is antianthropocentrism--the belief that humans should cooperate with the environment and other earthly life forms, not compete and conquer the environment. The third construct is the fragility of nature--the belief that the earth’s environmental balance is fragile, and that humans can affect the environment. Fourth is the rejection of exemptionalism--the attitude that human innovation and ingenuity is not enough to conquer the environment, that humans are not exempt from nature’s laws. Finally, the fifth construct is ecocrisis--the idea that the earth’s environment is becoming so abused as to become irreparable.
Dunlap et al. (2000) suggest that during the 1970’s, research on environmentalism was local and small scale in nature. This means that individuals concerned about environmental issues were able to look in their backyard and see the causes for their concern, especially issues such as hazardous waste. New York’s Love Canal is an exemplar of this phenomenon. However, in the ensuing years, issues of environmental concern “have generally tended to become more geographically dispersed, less directly observable, and more ambiguous in origin” (Dunlap et al. 2000, p.426). Current environmental issues include such problems as ozone depletion, global warming, and the increasing loss of endangered species and their habitat, which are less directly observable. As a result, Dunlap and his colleagues suggest that research has shifted from specific environmental phenomena to the beliefs and attitudes about these phenomena.

While the NEP scale has proven its value and is widely accepted, one of the criticisms regarding the NEP scale has been its lack of a theoretical base. Stern et al. (1999) note that the NEP scale offers a sort of “folk wisdom” perspective to environmental concern, and propose that it ought to be a part of the Values Beliefs Norms theory (VBN) as proposed by Schwartz (1977). VBN posits that values, as generally measured in the NEP scale, are antecedent to environmental beliefs and attitudes, which in turn is antecedent to behavioral intentions. Stern et al. (1999) suggest that the NEP scale most accurately reflects a person’s environmental beliefs portion of the VBN theory. The VBN theory is built from Schwartz’s (1977) work on altruism and behavior that posits that values and beliefs will influence behavior. Behavior that is in agreement with one’s values and beliefs will boost self-esteem; whereas behavior that is contrary is more likely to result in guilt or negative self-evaluations. Further, when a person is both aware of the consequences and has an acknowledgment of responsibility for their behavior, they are more likely to behave in an altruistic fashion.

In conclusion, the efforts to measure and evaluate environmental concern have been explored demographically, behaviorally, and attitudinally. As such, important antecedents to environmental concern seem to include altruism, a need for cognitive resources, and a future orientation. The important consequences include energy conservation, waste reduction, green purchase behavior, and concern for specific environmental issues such as global warming. These antecedents and consequent facets of environmental concern will be further explored in this paper.

Frugality

As was done for environmental concern, this review of frugality will attempt to outline the various features of the frugal consumer segment. The review begins with a discussion of the definition of frugality, and then follows with a review of the attitudes and behaviors of the frugal consumer segment. Finally, this section concludes with a discussion of the scales used to measure frugality.

There are a variety of perspectives towards frugality, but most reflect two prominent features: the economizing of money resources and material resources. Arguably the most prominent definition and the one adopted for this paper is from Lastovicka et al. (1999), who propose that frugality is a lifestyle trait where a person is disciplined in their acquisition of products and services and resourceful in their use. Todd and Lawson (2003) add an aspiration or future orientation perspective to the definition as they propose that frugality is the propensity to achieve long-term goals through the denial of short-term whims and the creative use of
resources. De Young (1986) offers a slightly different definition that emphasizes the avoidance of waste as well as the careful use of resources. Finally, Bernthal et al. (2005) also perceive frugality as a lifestyle trait, but frame it as a deliberate constraint of one’s lifestyle. While these definitions are each slightly different, they concur in that each suggests that a frugal consumer is resource driven, goal oriented, and disciplined.

These traits of a frugal consumer are similar to those of an environmentally concerned consumer. Both are concerned with the management and stewardship of resources (Fujii 2006; Lastovicka et al. 1999). Yet frugality is generally more concerned with the savings of economic resources (Bardhi and Arnould 2005), while environmental concern is focused more on the conservation of natural resources such as wildlife, pollution, and the general health of the planet (Brulle 1996). As a result, Lastovicka et al. (1999) suggest that frugal individuals do not necessarily have to be environmentally concerned.

Attitudes of the Frugal

As was noted earlier, the behaviors of the environmentally concerned consumers are often different than mainstream consumers. So, too, are the attitudes of frugal consumers. Frugal consumers are independent (Craig-Lees and Hill 2002) and perceive frugality as a satisfying activity worth pursuing in its own right. Some consumers go farther and confess that frugality is fun, i.e. a hedonic experience (Bardhi and Arnould 2005). Frugal consumers suggest that they enjoy practicing frugality for two reasons (De Young 2000). First, some frugal consumers gain a feeling of empowerment because they are able to accomplish things and live in such a way that other mainstream consumers are either unwilling or unable. For example, frugal consumers indicate a sense of pride because they do not have to depend on others for their welfare. They are capable individuals who can fix their own car or grow their own food. In addition frugal consumers are often competitive. That is, many frugal consumers feel that living in a materialistic society is like a competition, and the prize is the money in one’s wallet. Frugal consumers feel that somebody is always trying to take their money, be it the crafty retailer with their promotions, or the credit card company with their high interest rates.

Therefore, it may be useful to compare frugal consumers to their polar opposites—an entitled or materialistic consumer. While an entitled consumer justifies their spending choices by reasoning that they are due rewards for having endured various hardships, frugal consumers are less susceptible to that logic. Evidence suggests that frugal consumers are resistant to letting others judge and influence their behavior (Lastovicka et al. 1999) and may be low in self-monitoring, i.e. looking to others for behavioral cues (Gould et al. 1997; Stammerjohan and Webster 2002). In addition, frugal consumers often feel freer through their constraint of lifestyle than entitled consumers do through their credit lifestyle (Bernthal et al. 2005). As such, even though a frugal consumer may not have as many material possessions as another, they also do not have the emotional strain from worrying about paying for or maintaining those material possessions.

On an interesting note, frugal consumers may disapprove of an entitled lifestyle and attempt to avoid its financial traps, but they also recognize that the two primary tools of the entitled lifestyle are useful if handled correctly. These two financial tools are credit cards and debt (Bernthal et al. 2005). Although frugal consumers avoid credit cards and loans, they are not forbidden. They are viewed simply as tools that may be useful in reaching a goal. However, they
are dangerous tools if used carelessly or incorrectly. A power saw can be used to cut wood for
the construction of a house. It can also injure or maim a negligent operator (or others) with its
spinning blade. So too, are the tools of debt and credit cards. Used wisely they are convenient
and sometimes perceived as necessary, but used negligently they can also be tempting and
addicting. As such, it was found that consumers who support the values of frugality and delayed
gratification are often recovering from an entitled lifestyle that put them under the burden of
debt.

A recent study from Rick et al. (2008) suggests that frugal consumers can be separated in
two segments related to the pain of spending. The first is the frugal consumer as conceived by
Lastovicka et al. (1999). This consumer saves money because it makes them feel good. On the
other hand is the tightwad, as conceived by Rick et al. This consumer saves money to avoid pain;
they find that spending money is painful. In short, the behavior of frugals and tightwads are the
same, saving money and not spending money, yet their perspectives are different. Frugals are
more positive and speak of enjoying thrift and saving resources, tightwads are pessimistic and
speak of disliking spending. This research finds that people who are frugal tend to be happier
than the average person, tightwads are less happy. Tightwads pass up purchases not because they
enjoy saving money or are sensibly calculating the benefits of saving versus spending, but
because they hate to part with cash. In other words, tightwads would rather save or hoard money
rather than purchase things that they could afford to own, even things that would make their lives
better.

Rick et al. (2008) contrast the frugal and tightwads to their counterparts at the other end
of the consumer spectrum, the spendthrift consumer. Spendthrifts are analogous to entitled
consumers (Bernthal et al. 2005), and as one might expect, spendthrifts find too little pain in
spending and spend more than tightwads would in the same situation. One important difference
between spendthrifts and tightwads is their attitudes toward spending. When deciding whether to
purchase a similar product or service, spendthrifts are and more likely to purchase if it has a
hedonic theme, whereas tightwads are more likely to purchase if it has a utilitarian theme. For
example, a tightwad is more likely to purchase a massage if it is framed as relieving pain, where
a spendthrift is more likely to purchase if it is framed as providing pleasure.

Behaviors of the Frugal
Frugal behavior can be broadly classified into two broad purchasing strategies - where a
person either attempts to avoid a purchase or inactively fails to purchase. The first strategy
involves delaying or procrastinating until the purchase desire wanes. This is the antithesis to
impulse buying because the consumer is aware of the urge to splurge, and actively resists it.
Similar to avoidance strategies is the strategy of reevaluating the need, where consumers re-
prioritize their needs or decide that practicing self-reliance or self-control is a better decision
than purchasing something. This strategy is an ascetic or self-sacrificial ignoring of the need,
where one may feel it a sense of duty to go without at the present time in order to save for a
future expenditure (Gould et al. 1997; Shehryar et al. 2001; Stammerjohan and Webster 2002).

From these two broad frugal consumption strategies, researchers describe a handful of
more specific shopping and consumption tactics. These tactics are notable for their variety and
creativity (Craig-Lees and Hill 2002; Lastovicka et al. 1999). For example, a frugal consumer
that has assumed the broad strategy reevaluating the need may then implement the tactic of self-
service, where they choose to service a product themselves rather than replacing or having a professional service the product, such as repairing a car or household appliance rather than hiring a professional repairman or purchasing a replacement. Frugal consumers are also more willing to build their own product, rather than buying it from a store. As such, frugal consumers are willing to build their own home or furniture, or to quilt a blanket from reclaimed fabric. Therefore, frugality involves a high level and commitment to resource competence, i.e. the skills and ability to be proficient at making things last (De Young 1986).

Resource competency suggests that frugal consumers are likely to be highly educated and have time to spend pursuing their lifestyle (Todd and Lawson 2003). Frugal consumers have a desire to learn and do things on their own, suggesting a need for information or cognitive resources. In addition, being resource competent can also be time-consuming. That is why older or mature consumers are well represented in the frugal consumer segment. These consumers are often retired or have grown children that have left the home, and have more free time to devote their pursuits (Todd and Lawson 2003).

On the other hand, it may be fair to assume that some frugal consumers practice a frugal lifestyle due to need, i.e. they have a low income and are forced by situation to be frugal. However, Gardels’ (2000) research does not completely agree with this assertion. This research finds that frugality transcends poverty, and that frugal consumers simply have low materialistic needs. This does not mean that frugals have abandoned all material possessions but that they are more willing to enjoy fewer possessions. This simple lifestyle allows them the ability to purchase or acquire the material items they deem important (Craig-Lees and Hill 2002). This also suggests that frugal consumers are goal oriented cognitive planners. Frugals believe that it is better to live intelligently and intentionally instead of wastefully. For example, they may prefer to skimp on some items, such driving an older yet paid for car, so that one may have the funds for something more important to them.

Interestingly, that something does not have to be a utilitarian good as Rick et al. (2008) found with tightwads. Frugal consumers are also willing to skimp and save to also purchase a hedonic good (Craig-Lees and Hill 2002; Gardels 2000) such as a trip with the family on holiday. This finding suggests that there are levels and differences within the frugality segment, where some (tightwads) disdain hedonic purchases, while others (frugals) limit or exhibit self-control when purchasing a hedonic good or service.

One final note, neither EC nor frugality had a significant relationship with behavioral intent to reduce automobile use (Fujii 2006). This finding may be due to the inconvenience of alternative transportation techniques for some consumers. In addition, the inconvenience of waiting for the bus or the impracticality of riding a bicycle long distances discourages those frugal behaviors for some as well.

Scales Measuring Frugality

While environmental concern has several research perspectives, and scales reflecting those perspectives, frugality has fewer. The most prominent of the scales is the Lastovicka et al. (1999) scale. This eight-item scale was developed in a series of six studies. In their evaluation of the scale, they propose it to be uni-dimensional and found it to be positively correlated with value consciousness and price consciousness and negatively related to materialism.
In two studies Mowen (2000) developed an alternative measure of frugality that he called tightwadism. While both Mowen’s scale and the Lastovicka et al. scale were being developed concurrently and independently, Mowen did find an important weakness in the frugality scale after it was published in that it has poor internal reliability. Mowen’s exploratory factor analysis revealed the eight item frugality scale to have two factors rather than the one proposed by Lastovicka et al. The first factor seems to represent a “care in spending” orientation while the second seems to represent a stewardship or “care in owning” orientation. This finding suggests that frugality, like environmental concern, is multi-faceted.

Mowen compared his tightwad scale to a variety of hypothesized antecedent personality traits, and found that it is related to impulsiveness, bargaining proneness, materialism (negative relationship), and emotional instability. While Mowen’s definition of tightwadism is different than Rick et al. (2008), they are similar in that they seem to suggest a more extreme form of frugality or stewardship of financial resources. Mowen’s scale does not include an affect orientation as does the Rick et al. scale, which relates to the pain in spending. However, Mowen’s scale does suggest a strong reluctance to spend money at all, where the Latovicka et al. scale allows one to spend after one has saved for the necessities.

In conclusion, the efforts to evaluate frugality have been explored by other researchers in a similar fashion to the exploration done with environmental concern. Research has found that the important antecedents toward frugality are independence, a need for cognitive resources, and a future orientation. Important consequent traits include resource competence, stewardship of resources, and limited consumption behavior. These antecedents and consequent facets of frugality will be further explored in this paper.

**RESEARCH OUTLINE AND THEORETICAL BACKGROUND**

The goal of this section is to illustrate the theoretical background of this research and describe the three studies included in this paper. The purpose of Study One is to analyze and refine the constructs used in Study Two and Three. The 3M Model (Mowen 2000) is employed as the theoretical basis for the analytical structure in Study Two, which compares the traits of the frugal and the EC. Study Three utilizes schema congruity theory (Fiske 1982; Fiske and Taylor 1991) to further evaluate the persuasional effectiveness of marketing messages on frugal and EC consumers.

**Study One – Construct Refinement**

Study One evaluates several constructs pertaining to both frugality and environmental concern. This is an important first step in this line of research because the scales utilized in this research come from various sources and research streams where there may be concern regarding the constructs conceptualization (MacKenzie 2003), or concerns that the construct may not be focused on the issues of environmental concern and frugality. Following the advice from Peter (1981), who warned that simply adopting a scale from another field may impact the validity of the scale in a marketing analysis, an investigation will be done on these scales to insure their applicability to this present research.

The first analysis will be to investigate the properties of the NEP (Dunlap and Van Liere 1978; Dunlap et al. 2000) scale. The NEP scale is admittedly a multi-dimensional scale measuring five facets of environmental concern (Xiao and Dunlap 2007). The purpose of the first
The first of the five facets of the NEP is labeled *limited growth*, or the belief that the earth’s natural resources are finite and that it will support a finite number of people. The second facet is *anthropocentrism*, or the belief that humans should cooperate with the environment and other life forms, not compete and conquer the environment. The third facet is *the fragility of nature*, which is the belief that Earth’s environmental balance is fragile, and that humans can affect this balance. The fourth facet is *the rejection of exemptionalism*, which is the belief that humans are not exempt from nature’s laws and that human innovation and ingenuity is not enough to overcome all of the earth’s environmental problems. Finally, the fifth facet of the NEP scale is labeled *ecocrisis*. It is the belief that the earth’s environment is becoming so abused as to become irreparable. This extensive and comprehensive conceptualization of environmental concern has been widely used and accepted in research (Diamantopoulos et al. 2003). However, a simpler and shorter scale representing a single facet of environmental concern might be warranted (MacKenzie 2003) for use in Study Two.

The second set of analysis will be to compare the frugal (Lastovicka et al. 1999) and tightwad (Mowen 2000) scales. These are two prominent scales in the marketing literature to measure frugality. Previous research from Mowen (2000, p193) revealed that the eight item frugal scale is made up of two constructs rather than one as proposed by Lastovicka et al. (1999). The first construct seems to measure a “Care in Spending,” and the second a “Care in Owning.” Confirmatory factor analysis from that study also revealed that the tightwad scale and the care in spending scale are different constructs. The second analysis in Study One will duplicate this analysis in order to confirm which scale is most appropriate for use in the subsequent studies.

The last series of analyses in Study One will be to assess the constructs indicating the consequent behaviors or surface traits of frugal and environmentally concerned consumers. Included in this analysis will be a test to verify the discriminant validity between the situational and surface traits. The first constructs are from the voluntary simplicity literature (Leonard-Barton 1981) and the next are from sociology (Guber 2003). The first set, the three voluntary simplicity scales, measure the behaviors of voluntary simplifiers, which are also common behaviors to the frugal and environmentally concerned. These scales reflect behaviors such as recycling, membership in a conservation organization, consumption of meatless meals (a vegetarian type diet requires less energy and resources for each calorie of food produced), riding a bicycle for errands, purchasing used or making one’s own furniture or clothing, growing one’s own food in a garden, and doing their own car and home repairs. The Frequency of Buying Green Products scale from Guber (2003) reflect green marketing or green buying behaviors that are also common to both frugal and environmentally concerned consumers. These behaviors include purchasing goods from companies that do not pollute, buying products that come in packages that can be refilled or reused, and purchasing products that are biodegradable. Because these scales are quite broad and measure several behaviors, an investigation will be done on these scales to determine their suitability for use in Study Two.

**Study Two – A Meta-Theoretic Model of Motivation**

An important question in the investigation of frugality, EC, and VS concerns how to organize these constructs into a nomological network. This author employs the 3M Model of
motivation and personality (Mowen 2000) as the theoretical structure for proposing a nomological net of constructs. The 3M Model approach has been used in past research as a structure to investigate many phenomena, such as service employee performance (Brown et al., 2002), job resourcefulness (Licata et al., 2003), volunteerism (Mowen & Sujan, 2005), superstition (Mowen & Carlson, 2003), and word-of-mouth communications (Mowen, Park, and Zablah, 2007). Because the 3M Model has been effectively used in previous research, it is employed in this present research.

The 3M model is based in part on the work of Allport (1937), and integrates control theory, evolutionary psychology principles, and elements of hierarchical trait theories to provide an integrated explanation of how personality and situations interact to influence feelings, thoughts, and behaviors. The 3M Model suggests that enduring dispositions to respond (e.g., traits) can be arranged into four levels based upon their level of abstraction. Ranging from the most abstract to the most concrete, the four levels of traits are: elemental, compound, situational, and surface. Previous research has suggested that frugality and environmental concern are both traits (Guber 2003; Lastovicka et al. 1999; Mowen 2000). Therefore, these constructs lend themselves well to this analytical framework.

Figure One: Proposed Nomological Net for Study Two

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<tr>
<th>Elemental Traits</th>
<th>Compound Traits</th>
<th>Situational Traits</th>
<th>Surface Traits</th>
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<tr>
<td>Introversion</td>
<td>Need for learning</td>
<td>Tightwad</td>
<td>Modest Living</td>
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<td>Conscientiousness</td>
<td>Present Time Orientation</td>
<td>NEP</td>
<td>Recycling</td>
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<td>Openness</td>
<td>Liberal Values</td>
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In the hierarchy, elemental traits reside at the most abstract level. Mowen identified eight elemental traits which are defined as the basic, underlying predispositions of individuals that arise from genetics and a person’s early learning history (Mowen 2000, p.20). These traits are cross-situational, enduring dispositions to respond and represent the most basic components of the personality–motivational structure of the individual. The eight elemental traits are: openness to experience, conscientiousness, introversion, agreeableness, emotional instability, need for material resources, need for arousal, and need for body resources. The first five elemental traits were adapted from Saucier’s (1994) version of the 5-Factor model. The need for arousal was adapted from Zuckerman’s (1979) work on sensation seeking. The constructs of need to protect and enhance material resources and body resources follow evolutionary psychology principles which suggest that the needs arose from Darwinian selection pressures and were necessary for the survival of the species. For example, the human species cannot survive without a need to create material resources such as tools, weapons, clothing, and shelter, and those that acquired or created those resources were more likely to survive than those who did not. This research will follow Mowen’s (2000) proposition to include all eight elemental traits in this research as control variables. Further, it is important to include all eight elemental traits because if one does not, an ‘illusory prediction’ might occur, which is when it appears as if a compound or situational trait is predicting a surface trait (Mowen and Voss 2008).
Compound traits reside at the next level in the hierarchy. Compound traits are defined as unidimensional dispositions emerging from the interplay of elemental traits, from the culture in which the individual lives, and the learning history of the individual (Mowen 2000, p.22). Included in this paper is the need for learning. The need for learning is well established in previous work by Mowen (2000) and is described as the enjoyment of learning and working on new ideas, and the priority of information as a resource. Following the pattern of previous research, it is placed at the compound level.

Also at the compound level are the values of conservatism and liberalism. This work will follow Mowen et al. (2008) and place values at the compound trait level in the hierarchy. While values are not specifically compound traits, they do represent belief systems concerning socially preferred states of existence, which allows their inclusion at this level of analysis.

The third set of traits in the 3M Model are the situational traits. Situational traits result from the joint effects of elemental traits, compound traits, previous learning history, and the situational context in which the behavior occurs (Mowen 2000, p.22). Included in this paper are two situational traits: environmental concern (Dunlap and Van Liere 1978), and tightwadism (Mowen 2000). Prior research from Mowen (2000) has placed tightwad at the situational level. The NEP scale is also placed at the situational level. This is because environmental beliefs and actions are more prone to situational influences than compound traits. For example, education has been suggested as an influencer of environmental beliefs (deHaven-Smith 1988), and the need for learning, a facet of education, has already been established as a compound trait.

The surface traits are the most concrete of the traits which represent the fourth level of the 3M hierarchy. They are category-specific dispositions to behave with respect to a particular product category or domain of behavior (Mowen 2000, p.23). Included in this paper are four surface traits, three of which are developed in the previous study. The first is labeled modest living, which represents behaviors common to the voluntary simplicity literature such as buying used or second-hand clothing and furniture (Leonard-Barton 1981). The second trait is recycling, or the propensity to recycle glass, cans and newspapers. The third is titled eco-actions, which is the propensity to purchase non-polluting and environmentally safe products. The final trait is the belief in global warming, which is a belief that human behavior and actions are causing global environmental change. While the belief in global warming is a belief and not an action, it is a specific belief toward an object, and as such, is appropriate to the fourth level in the 3M hierarchy.

**Study Three – Schema Congruity Theory**

Study Three uses the findings from the previous study to determine whether a message specifically tailored toward the unique antecedent traits of frugality and environmental concern will influence frugal and environmentally concerned consumers. As such, the purpose of the third study is to test schema congruity theory. Schema Congruity Theory (Fiske 1982; Fiske and Taylor 1991) suggests that a person will act in accordance with their schema. A schema is an organized structure of associations and expectations one has for a given domain, and it is this structure that influences a consumer’s evaluation of a stimulus. Therefore, a stimulus that agrees or is congruent with an individual’s scheme will positively influence that person. However, a message that is incongruent or disagrees with a person’s schema will be negatively received or
have a negative influence on that person. Schema congruity theory can be seen in how endorsers are chosen for a product or a firm.

For example, prominent celebrity athletes such as Tiger Woods are ubiquitous and effective endorsers in the marketplace (Martin 1996). These celebrity athletes are effective endorsers when the consumer’s or audience’s perception of the athlete’s public personality matches the consumer’s perception of the product or brand. As such, schema congruity theory suggests that there is congruence between the schemas of the endorser and the consumer, and the endorsement will be evaluated positively by the consumer. The opposite is true that when there is incongruence or mismatch between the schemas of the product and endorser, the consumer will form a negative evaluation.

The results of Study Two provide the antecedent traits of frugality and environmental concern used in Study Three to test schema congruity theory. Using the strongest unique antecedent traits as schemas, four messages are developed specifically for frugal and environmentally concerned consumers. The first message will be designed to be congruent with the schema of the environmentally concerned consumer, while the second will be incongruent. The third message will be designed to be congruent to frugal consumers, and the final message will be designed to be incongruent. It is expected that the environmentally concerned consumer will respond positively to a message that matches their antecedent traits, and negatively to a message that is incongruent. In the same way, it is expected that frugal consumer will respond positively to a message that matches, and negatively to a message that is oppositional.

**STUDY ONE – CONSTRUCT REFINEMENT**

Study One assesses the properties of the various scales for use in the 3M framework in Study Two. Five separate analysis are included in this study. The first analysis will evaluate the NEP scale (Dunlap and Van Liere 1978), and the second analysis will be to compare the frugality scale from Lastovicka et al. (1999) and the tightwad scale from Mowen (2000). The third analysis will demonstrate that the NEP scale and the tightwad scale (Mowen 2000) represent two different constructs. Next, three scales proposed to measure the consequent traits of frugality and environmental concern from the voluntary simplicity literature (Leonard-Barton 1981; Leonard-Barton and Rogers 1980) and one scale from the environmental movement literature (Guber 2003) will be evaluated. Finally, an analysis showing discriminant validity between the surface and situational traits will be conducted. Therefore, the first section of this chapter will introduce the constructs and scales, the second section will discuss the method employed to analyze the constructs, and the third section will present and discuss the results of each analysis.

**Method**

**Measures**

The first scale utilized in this paper is the New Environmental Paradigm (NEP) scale (Dunlap et al. 2000). The decision was made to begin the analysis with this fifteen item scale because of its prominence in measuring the general beliefs of environmental concern (Kilbourne and Pickett 2008; Roberts and Bacon 1997). The NEP scale measures five facets of an ecological world view: (1) *the reality of limits to growth*, (2) *antianthropocentrism*, (3) *the fragility of nature’s balance*, (4) *rejection of exemptionalism*, (5) and *the imminence of an ecocrisis*. Each facet is made up of three items, the items of each facet are interspersed such that the first facet’s
items are question 1, 6, and 11, with the even numbered items being reverse coded. The survey for this study was written so that the subjects provided responses on seven-point Likert-type scales anchored with strongly disagree and strongly agree.

The next two scales measure frugality, and this pair will be compared to assess their suitability for use in Study Two. The first is the frugal scale (Lastovicka et al. 1999), an eight item scale that measures one’s inclination to save money and conserve resources. The other is the five item tightwad scale from Mowen (2000). Both scales were independently developed about the same time. As with the NEP scale, the frugality scale is an accepted and prominent scale in the marketing literature (Rick et al. 2008). The tightwad scale is used in this paper because it was developed in conjunction with the 3M model by Mowen (2000). The survey for this study was written such that subjects provided responses on seven-point Likert-type scales, as was done with the NEP scale.

The final set of analyses includes scales proposed to measure the surface traits of frugality and environmental concern. The first three scales are adapted from Leonard-Barton (1981) and Leonard-Barton and Rogers (1980) work regarding voluntary simplicity. The scales and were divided into three facets by Bruner and Hensel (1998) which are labeled ecological awareness, materialism, and self-determination. The first two facets have four items each, while the last facet consists of five items. The first facet, ecological awareness, is manifest by one’s willingness to recycle, eat meatless meals, and one’s participation in ecological or conservation organizations. The second facet, materialism, actually measures one’s anti-materialistic tendencies, such as one’s propensity to ride a bicycle for transportation, and to purchase furniture or clothing from second-hand stores or garage sales. Finally, the third facet, self-determination, measures whether one is likely to make gifts and clothing for themselves and their family, grow food in the garden, and do their own maintenance on their home and car.

The final scale examined in this study is the frequency of buying green products (FBGP) scale (Guber 2003). It is a seven-item scale which measures various green marketing behaviors such as avoiding or not purchasing products that harm the environment or come from firms that pollute the environment, and choosing to buy products that are environmentally friendly. Subjects responded to the items for these scales on a seven-point Likert-type scale from “never do that thing” to “frequently do that thing.” The scales for each are in the appendix.

Data Collection and Sample Characteristics
The data was collected from a student sample of undergraduates enrolled in upper-division business classes at a state university in the Midwest. The students were assured of anonymity and informed of their right to refuse taking the survey. In addition, the students were rewarded with extra credit for participation in the survey. One of the concerns in a study of this type is the use of students as subjects. While a student sample may not be representative to the entire population, Calder et al. (1981) suggest that a student sample is appropriate when the sample adequately represents the population concerning the areas applied in the research. Data was collected via a paper and pencil survey which took about 15 minutes to complete. Two surveys were discarded for excessive incomplete responses, leaving a sample size of 288 subjects. The sample was 52 percent female, with the mean age of 21 years.
Results

Refinement of NEP scale

Principle component factor analysis with varimax rotation was used to investigate the 15 item NEP scale. Inspection of communalities and correlation matrices indicate that the data were suitable for this analysis. These conclusions were further supported by the Kaiser-Meyer-Olkin (KMO) sampling adequacy of .804 and a significant Bartlett’s Test of Sphericity ($\chi^2=1049.212$, $p=0.000$). Items were retained if they loaded 0.50 or more on a factor and did not load more than 0.50 on two factors, i.e. cross-loading. Third, the item should have a communality of 0.50 or more, and finally, items were retained if the reliability analysis indicated an item-to-total correlation of more than 0.40 (Hair et al. 2006). Based on this procedure, the 15 item scale was reduced to a single factor with five items measuring a broad attitude toward environmental concern. Cronbach’s alpha of the reduced NEP scale is 0.701.

Comparison of the Tightwad and Frugal Scales

The second analysis in Study One compares the Tightwad and Frugal scales. Previous research from Mowen (2000) found two issues of concern regarding the frugal scale (Lastovicka et al. 1999). The first concern is that the frugal scales measures two dimensions and the second is that the frugal scale bore a lower coefficient alpha than the tightwad scale. The two dimensions revealed in Mowen’s analysis were labeled care in spending and care in owning. The first represents a stewardship of financial resources, and the second represents a concern for material resources. This analysis will repeat Mowen’s work to verify the superior nomological properties of the tightwad scale over the frugal scale.

For this study, principle component analysis with varimax rotation on the tightwad and frugal scale yielded three factors with Eigen values greater than one, which accounted for 67% of the variance. This is consistent with Mowen’s (2000) analysis. The Kaiser-Meyer-Olkin (KMO) sampling adequacy is .859 and Bartlett’s Test of Sphericity is significant ($\chi^2=1861.167$, $p=0.000$). The first factor from this analysis is the five item tightwad scale, and the second two factors are the care in spending and care in owning factors originally revealed by Mowen (2000, p.195). The coefficient alpha for each scale is 0.87 for tightwad, 0.76 for care of ownership, and 0.89 for care in spending.

Comparison of NEP and Tightwad Scales

The third analysis in this study is to compare the NEP and the tightwad scale to determine if they are measuring two different constructs. The reduced NEP of five items and the five item tightwad scale were subjected to Principle Component analysis with varimax rotation. Inspection of communalities and correlation matrices indicate that the data were suitable for this analysis. These conclusions were further supported by the Kaiser-Meyer-Olkin (KMO) sampling adequacy of .800 and a significant Bartlett’s Test of Sphericity ($\chi^2=975.320$, $p=0.000$). Two factors with Eigen values greater than one emerged, which accounted for 56% of the variance. The five tightwad items loaded on the first construct, and the five NEP items loaded on the second construct. No items were removed in this analysis since the five items for each scale met the qualifications for retention as outlined in Hair et al. (2006).

Refinement of Surface Traits

The goal of the final analysis is to refine scales that measure the surface traits. The four scales included in this analysis include the three scales measuring voluntary simplicity from
Leonard-Barton (1981), and the frequency of buying green products from Guber (2003). One additional item was included in this analysis that relates to recycling behavior. The twenty-one items were subjected to principle component analysis with varimax rotation with maximum likelihood extraction. One concern with an analysis with this large a number of variables is the number of observations in the data set. Hair et al. (2006) suggest that there ought to be at least 5 observations per variable, and 10 observations would be better. The data set for this analysis has 13 observations per variable (n=288), which meets those requirements. Inspection of communalities and correlation matrices indicate that the data were suitable for this analysis. In addition, maximum likelihood was used as the extraction method because of its ability to improve the parameter estimates (Hair et al. 2006). These conclusions were further supported by the Kaiser-Meyer-Olkin (KMO) sampling adequacy of .888 and a significant Bartlett’s Test of Sphericity ($\chi^2=2889.347, p=0.000$). This analysis revealed a three factor solution.

The first factor is made up of four items that seem to reflect one’s propensity to engage in a simple or modest lifestyle. Therefore, this factor is labeled “modest living.” The Chronbach’s alpha of this scale is .78. The second factor is made up of three items that reflect one’s propensity to engage in recycling behaviors. This factor is called “recycling,” and has a Chronbach’s alpha of .88. Finally, the third construct revealed in this analysis called “eco-actions” because they seem to reflect a person’s propensity to engage in green buying behaviors. The Chronbach’s alpha of this construct is .84.

The last analysis will be to compare the proposed surface and situational traits for discriminant validity. Included in this analysis are the reduced NEP scale, the tightwad scale, and the three surface traits: modest living, recycling, and eco-actions. These items were subjected to principle component analysis with varimax rotation. The assumptions for this analysis were met, (KMO) = .828 and Bartlett’s Test of Sphericity is significant ($\chi^2=2594.069, p=0.000$). The analysis yielded the expected results of five factors, with each item loading on its appropriate factor. Therefore, the three surface traits are unique and distinct from the two situational traits.

**Discussion**

The results of Study One provide a distilled version of the NEP scale, which reduces the scale from five facets to one construct. Chronbach’s alpha of the reduced scale is also smaller than the alpha for the full 15 item scale (alpha = 0.70 and 0.80). That reduction is due in a large part to the smaller number of items in the reduced scale versus the full scale (Voss et al. 2000). In addition, the reduction of Chronbach’s alpha is the trade-off for the benefit of reducing the five facets of the original scale to the single construct of the new scale.

Furthermore, the analysis from Study One suggests that the tightwad scale and the frugal scale are different constructs, where the frugal scale represents two separate constructs. The frugal scales multi-dimensional character which measures stewardship and fiscal responsibility is different than attempting to measure one’s propensity to save rather than spend money. Although stewardship, or the care of material possessions, is a consumer trait worthy of study, it is not the focus of this line of research. In addition, an examination of the items in the tightwad and the frugal/care in spending scales suggest that the tightwad scale deals with a more devoted or acute view of frugality. Where the tightwad items include “I find that I have a hard time spending money on anything but necessities,” and “I act like a tightwad, and spend very little,” the care in spending items are less intense. Examples of the care in spending items include “I believe in
being careful in how I spend my money,” and “There are things I resist buying today so I can save for tomorrow. Thus, it seems that the frugality/care in spending scale measures a less committed form of frugality than the tightwad scale.

The analysis also reveals that the NEP scale and the tightwad scale measure two different constructs. As was expected, the NEP scale seems to be a general measure of environmental beliefs, and the tightwad scale is a general measure of fiscal self-restraint. This is an important finding, for it suggests that frugality and environmental concern are independent traits of a consumer’s personality.

Finally, the surface traits were analyzed, which revealed some interesting findings. Four scales were submitted for analysis and three constructs emerged from the data. The first construct originated from the green buying scale, which was simplified to four items representing the most common green buying actions. Dropped were the items regarding avoiding purchase of a product with excessive packaging, and avoiding buying fresh foods because of the chemicals used in production. The three voluntary simplicity scales were reduced to two constructs in this analysis. The first is a scale represents a propensity to recycle, and the second represents a propensity to buy used clothing and furniture instead of new, and to create/build things like gifts, furniture, and clothing, rather than buying them. See Figure Three for a summary of the revised scales.

### Table One
**Revised scales from Study One**

<table>
<thead>
<tr>
<th>Modest Living</th>
</tr>
</thead>
<tbody>
<tr>
<td>I frequently buy furniture at garage sales or second-hand stores</td>
</tr>
<tr>
<td>I frequently buy clothing at a second-hand store or garage sale</td>
</tr>
<tr>
<td>I frequently make gifts instead of buying them</td>
</tr>
<tr>
<td>I make clothing or furniture for the family</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>I frequently recycle newspapers used at home</td>
</tr>
<tr>
<td>I frequently recycle glass jars and bottles used at home</td>
</tr>
<tr>
<td>I frequently recycle used cans, bottles, or paper</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eco-Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>I avoid purchasing products made by a company that pollutes the environment</td>
</tr>
<tr>
<td>I buy a product because the label or advertising said it was environmentally safe or biodegradable</td>
</tr>
<tr>
<td>I avoid restaurants using plastic foam containers</td>
</tr>
<tr>
<td>I avoid buying products in aerosol containers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reduced NEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>The earth is like a spaceship with very limited room and resources.</td>
</tr>
<tr>
<td>We are approaching the limit of the number of people the earth can support.</td>
</tr>
<tr>
<td>Humans are severely abusing the environment.</td>
</tr>
<tr>
<td>The balance of nature is very delicate and easily upset.</td>
</tr>
<tr>
<td>The so-called “ecological crisis” facing humankind has been greatly exaggerated.</td>
</tr>
</tbody>
</table>
STUDY TWO - ANTECEDENTS AND CONSEQUENCES OF FRUGALITY AND ENVIRONMENTAL CONCERN

The purpose of this section is to describe the second study in this paper. This section begins with a discussion of the method utilized in the development of the hypotheses and the nomological net. Next, the results will be presented, and finally, a discussion will be offered.

Research Hypothesis

This first section is devoted to discussing the hypotheses and method used in the second study. The hypotheses will be organized in order of their hierarchy, with the focus being the situational (third level) traits of frugality and environmental concern. Thus, the first set of hypotheses regard the elemental traits relationship with frugality and environmental concern. Next will be the discussion regarding the compound traits relationship with frugality and environmental concern, and third, the relationships frugality and environmental concern have with the surface traits.

Elemental Traits

Materialism

While all eight elemental traits are included in the model for this present research, it is not assumed that all eight will be relevant to the traits under study. Previous research by Mowen (2000) has suggested that materialism, conscientiousness, and the need for arousal may have a relationship to frugality. The first, materialism, is defined by Mowen (2000) as the need to collect and possess material goods. There is some discussion that the current scale used in the 3M model to measure materialism is better conceptualized as terminal materialism rather than instrumental materialism (Scott 2009). Instrumental materialism is the need for resources as tools and items necessary for utilitarian purposes while terminal materialism is seen as the need for goods and items for hedonic purposes. For example a car can be used as basic transportation, a utilitarian purpose, or it can be perceived as a status symbol, a hedonic purpose. As such, Scott (2009) proposes that materialism as it is currently measured should be a situational trait rather than an elemental trait. Because the results of Scott’s investigation are still forthcoming, and the prior research using the 3M model uses it as an elemental trait, this research will continue to use the scale and hierarchy as it exists.

The prior research suggests that materialism is negatively related to frugality and environmental concern (Kilbourne and Pickett 2008; Mowen 2000). Traditional consumption patterns do not apply to the environmentally concerned (Heiskanen 2005). Environmentally concerned consumers take the position that a sustainable economy will not be achieved until consumers shift consumption patterns and reduce consumption levels (Fuchs and Lorek 2005). The changes in consumption patterns include purchasing goods and products that reduce waste, i.e. can be reused, repaired, and recycled. An even stronger anti-materialism commitment from the environmentally concerned segment is to reduce one’s total consumption, as in, to buy and use less stuff. Other research has confirmed this ethic (Ebreo and Vining 2001; Tonner 2000). Therefore, it is proposed that materialism will have a negative relationship to EC.

In the same way, frugality has a negative relationship with materialism (Mowen 2000). The reasons for this relationship can be traced to some of the attitudes and behaviors of the frugal consumer. First, frugality concentrates on the savings of economic resources, especially personal economic resources (Bardhi and Arnould 2005). In order to reliably administer one’s
personal finances, one must try not to buy things (Gould et al. 1997). Frugal consumers will sometimes ignore the need in order to avoid a purchase (Stammerjohan and Webster 2002), and feel guilty when they are forced to purchase (Shehryar et al. 2001). While simple denial or refusal to purchase may not eliminate the consumer’s need, frugal consumers will instead use a substitute product that they have on hand to meet that need (Craig-Lees and Hill 2002). Therefore it is proposed that materialism will also have a negative relationship with frugality.

Because it is the purpose of this study to discern the various antecedents of frugality and environmental concern, it is proposed that materialism will asymmetrically affect frugality and EC. In other words, it is proposed that materialism will have a stronger negative effect on frugality than on EC because frugality focuses on personal material resources that are very salient to the individual, while EC focuses on shared global resources that are less salient. This will be empirically tested by determining the standardized beta coefficients and 95% confidence intervals of the two regression equations. If the standardized regression coefficients do not overlap, then the construct with the greater coefficient will have a stronger relationship with the materialism. Otherwise, neither will be deemed to have a stronger relationship.

H1a: Materialism will be negatively related to EC.
H1b: Materialism will be negatively related to tightwad.
H1c: Materialism will have a greater effect on tightwad than on environmental concern.

The remaining two elemental traits that might have a relationship with frugality are conscientiousness and the need for arousal. Conscientiousness is the trait of being organized, precise, and efficient. The need for arousal is the trait of needing action and activity. While these two elementary traits did not reveal a direct relationship with frugality in Mowen’s research (Mowen 2000), the data did suggest a negative relationship mediated by the compound traits of present orientation and care in spending respectively. Because a direct relationship was not determined in prior research, the relationships between the elemental traits of conscientiousness and need for activity will be tested, but not hypothesized.

Compound Traits
In the present research, the compound traits of the need for learning, present time orientation, and the values of liberalism and conservatism are investigated for their possible relationship to EC and frugality.

The Need for Learning
The need for learning is described as the enjoyment of learning and working on new ideas, and the priority of information as a resource (Mowen 2000). It is hypothesized that the need for learning will be positively related to environmental concern. First, one of the strongest demographic predictors of environmental concern is a higher level of education (Van Liere and Dunlap 1980). Second, environmentally concerned consumers have a strong desire to educate themselves about green products (Thogersen 2000). Environmentally concerned consumers are more likely to actually read and cognitively process product labels, and are more likely to act upon that knowledge. Third, environmentally concerned feel it is important to keep abreast of environmental issues (deHaven-Smith 1988; Schwepker and Cornwell 1991). In fact, the more a
person is aware of and knowledgeable about environmental issues, the more likely they are to be environmentally conscious (Schwepker and Cornwell 1991). These findings suggest that environmentally concerned consumers have a high need for learning.

In the same way, prior research suggests that the need for learning may have a positive relationship with frugality. Frugal consumers are unusually creative about solving consumer problems without spending money (Craig-Lees and Hill 2002; Lastovicka et al. 1999). For example a frugal person might be more likely to paint their own house rather than paying a professional painting crew to perform the work. As such, frugal consumers are independent (Craig-Lees and Hill 2002) and prefer to perform many of their own tasks. In other words, frugal consumers have a “do-it-yourself” attitude. In order to perform one’s own work, be it home or automobile repair, one must be willing to receive instruction and education. That education can be from others or from a book, or it could be from performing the experience itself. Therefore, propensity toward independence, and creativity, and problem solving ability of the frugal suggests that frugality might have a positive relationship to the need for learning.

It is also proposed that the need for learning will have an asymmetric effect on frugality and environmental concern. That is, the need for learning will have a stronger influence on environmental concern than it has on frugality. The logic for this hypothesis is that environmental concern is much more dependent on educational resources. Environmental concern is a relatively new idea, developed in the past forty years that came about because of serious scientific investigation and inquiry. Further, environmental concern is a complex issue that covers a broad range of issues from recycling to global climate change. Third, the awareness and understanding of those issues requires one to want to seek out information about environmental issues. On the other hand, while frugal consumers have a strong propensity to be innovative and creative in their use of resources (Todd and Lawson 2003), they are much less dependent of outside sources for their information. Their being frugal is impacted by phenomena they can see and understand themselves, and is personally relevant. These phenomena can be as simple as keeping track of their bank accounts and keeping a budget. Therefore, it is hypothesized that the need for learning will asymmetrically affect environmental concerned and frugal consumers.

H2a: The need for learning will be positively related to EC.

H2b: The need for learning will be positively related to tightwad.

H2c: The need for learning will have a stronger effect on environmental concern than it does on tightwad.

Present time orientation

Present time orientation reflects a short-term time horizon, where individuals live on a day-to-day basis, focus their attention more on the present than the future, and feel that the future is vague and uncertain. Previous research suggests that a present time orientation has a negative relationship with environmental concern. As such, environmentally concerned individuals have a future orientation with goals. One of those common goals is the sustainability of the planet. Fraj and Martinez (2007) found that individuals who choose environmentally friendly products desire to choose them not only because they are a healthier option for themselves, but that they
encourage sustainability and benefit future generations. Research conducted by Ebreo and Vining (2001) found that the concern for future consequences has a direct positive relationship to a consumer’s reported activities of recycling and waste reduction. Therefore, it is hypothesized that a present time orientation will have a negative relationship with environmental concern.

It is also possible that a present time orientation is also an antecedent to frugality. One of the characteristics of frugal consumers is a long-term orientation (Lastovicka et al. 1999). Frugal consumers are likely to save resources, particularly monetary resources, in the present so that they will have the ability to use those resources for a purchase or endeavor in the future (Fujii 2006; Todd and Lawson 2003). Therefore, a hypothesis of a negative relationship between a present time orientation is warranted. However, prior research has also found a positive relationship between present time orientation and frugality (Mowen 2000). This unusual finding is counter to the predominate logic regarding frugality, and may represent a frugal consumer’s overwhelming focus on daily tasks and chores at the expense of a long-term orientation. The hypothesis for this study will follow the findings from Mowen (2000) and suggest a positive relationship between present time orientation and frugality.

**H3a:** Present time orientation will be negatively related to environmental concern.

**H3b:** Present time orientation will be positively related to tightwad.

*The values of liberalism and conservatism*

This paper will also include investigating the effects of liberal and conservative values on the propensity to be environmentally concerned and frugal. Consistent with other research including values in the 3M model (Mowen et al. 2008), values are placed at the compound level of analysis. Values are an “enduring belief that a specific mode of conduct or an end-state of existence (Rokeach 1973, p.5), while compound traits are “unidimensional predispositions that result from the effects of multiple elemental traits, a person’s learning history, and culture” (Mowen 2000, p. 21). The compatibility between values and compound traits suggests that it is appropriate to include values at the compound level of analysis.

There is a great deal of evidence that environmental concern has a positive relationship with liberal values. The major actors in environmental politics have traditionally been advocates of social change and a reformation of traditional or conservative values (Brulle 1996). From early environmental organizations advocating the conservation of natural resources such as the National Arbor Day foundation and the Boone and Crocket Club to more current organizations such as the Natural Resources Defense Council and Earth First!, each has promoted changing the traditional established values (such as manifest destiny) in order to protect the health of the planet and the people. Therefore, it is believed that liberalism will have a positive relationship with EC.

On the other hand, conservative values seem to reflect an anti-environmental concern ethic. There is evidence that suggests that conservative political leaders and think-tanks have a record of at best not supporting initiatives designed to protect the environment to obstructing those initiatives outright (Brechin and Freeman 2004; McCright and Dunlap 2000). Further, from some points of view, the dominant paradigm of capitalism and the promotion of economic growth is in opposition to the environmental movement (Austin 2002; Pellow 1999). This is a
common dichotomy between economic growth and jobs versus preservation and activities to
insure the health of the planet (Dunlap et al. 1993). Therefore, it is believed that conservatism
will have a negative relationship with EC.

\[ H_{4a}: \text{Liberalism will have a positive relationship to environmental concern.} \]

\[ H_{4b}: \text{Conservatism will have a negative relationship with environmental concern.} \]

As opposed to environmental concern, frugality does not seem to have a political values
orientation. It appears that contemporary scientific literature has not attempted to address this
question. This gap in our research may suggest that there is an opportunity to glean new
knowledge in this arena, or it may represent the fact that there is no reason to suspect a
relationship between liberal and conservative values. Yet, some of the historical perspectives of
frugality suggest that it may be more aligned with a conservative rather than a liberal viewpoint.
Witkowski (1989) found that frugality was institutionalized by various governments during the
colonial period to both insure the future success of the community and colony, but also as a
reaction to the liberal and excessive fashions and lifestyle behaviors being imported from
Europe. In addition, frugality is advocated by many of the world’s major religions as good
character and a righteous lifestyle (Dayton 1996; Gould et al. 1997). Therefore, frugality might
have a positive relationship with conservatism, and a negative relationship with liberalism.

\[ H_{4c}: \text{Liberalism will have a negative relationship with Tightwad.} \]

\[ H_{4d}: \text{Conservatism will have a positive relationship with Tightwad.} \]

**Surface Traits**

In the present research, the surface traits of modest living, recycling, eco-actions, and the
belief in global warming are investigated as possible antecedent traits of environmental concern
and frugality.

**Modest Living**

Modest living behaviors are conceptualized as purchasing furniture and clothing at
second-hand stores or at garage sales, as well as making clothing, gifts, and furniture for one’s
family. It is believed that environmental concern will have a positive relationship to these
behaviors because these behaviors recycle resources and use less new resources. At the same
time, it is believed that frugality will have a positive relationship with the modest living
behaviors because these behaviors represent simple and effective strategies to save money. One
can find aspects of both frugality and environmental concern in the ethics of modest living or
voluntary simplicity (Elgin 1981). These consumers show a great deal of constraint when it
comes to purchasing products (Shehryar et al. 2001), and they are willing to utilize these
alternative purchasing strategies in order to meet their material needs. However, it is
hypothesized that frugality will have a stronger relationship with modest living behaviors than
environmental concern. This proposition is based on the logic that frugality is more concerned
about the consumption of resources, where environmental concern is more concerned about the
consequences of the behaviors relating to the use of resources (Fujii 2006). As was done with the
first set of hypotheses, this will be empirically tested by comparing the standardized beta
coefficients and 95% confidence intervals of the two regression equations.
H5a: Environmental concern will be positively related to modest living.

H5b: Tightwad will be positively related to modest living.

H5c: Tightwad will have a greater effect on modest living behaviors than environmental concern.

Recycling

Recycling behavior is included in this paper because it is a common behavior to both frugal and environmentally concerned consumers (Vining and Ebreo 1990). One’s propensity to recycle seems to depend on three facets: the relative convenience of recycling as a disposition strategy (Ewing 2001), one’s education and knowledge about the importance and benefits of recycling (Kashmanian 1989), and the social norms in one’s community or social group regarding recycling behavior (Vining and Ebreo 1992). While the first facet of recycling behavior is not related to an investigation of psychological antecedents, the second two facets of recycling are related and important to this line of research. One of the hypothesized antecedents to environmental concern is the need for learning. There is a similar relationship between recycling behavior and education. Individuals that recycle are generally educated about recycling’s importance (Heckler 1994), understand what materials are recyclable and beneficial to their community, and know where and how to recycle them (Vining and Ebreo 1990). In addition, recycling is a form of altruistic behavior (Hopper and Nielsen 1991), where proponents recycle less for the good of themselves, and more for the good of their community and their environment. Finally, recyclers perceive greater social pressure to recycle due to the dominant social norms of their community (Vining and Ebreo 1992), and therefore are more likely to feel a personal obligation to recycle.

While there is evidence that recyclers are like the frugal and find satisfaction from the efficient use of resources (Granzin and Olsen 1991), there is also evidence that the frugal may be resistant to recycling behaviors. Vining and Ebreo (1990) suggest in their research that non-recyclers are motivated toward recycling behavior only when there are financial incentives and rewards for their recycling behavior. As such, this suggests that consumers might not be willing to recycle unless they perceive a reward for themselves, which is an egoistic orientation. As Fujii (2006) noted in his research, frugal consumers are concerned about the consumption of resources and more concerned about their financial resources. Therefore, it is suspected that frugal consumers may be more like the general population and may be most willing to recycle when there is a reward, i.e. a benefit to their financial resources. This is in opposition to the environmentally concerned consumer who is more concerned with the general consequences of their recycling behaviors.

H6a: Environmental concern will be positively related to recycling behaviors.

H6b: Tightwad will be negatively related to recycling behaviors.

Ecological Actions

The eco-action scale measures one’s propensity to avoid using and purchasing products that pollute the environment, as well as preferences for products that are environmentally safe. It is believed that environmental concern will have a positive relationship with eco-action
behaviors that relate to concerns about pollution and care of the environment because individuals with a concern for the environment have consistently expressed a willingness to purchase green products (McDaniel and Rylander 1993; Schlegelmilch et al. 1996). As such, these behaviors are congruent with the environmental beliefs measured in the NEP scale. However, the eco-action scale also reflects purchasing products that are often perceived as more expensive than traditional products (Laroche et al. 2001). Some retailers and manufacturers have found it difficult to entice consumers to overcome the perceived high price of green or environmentally friendly products (Wong et al. 1996). Therefore, consumers who are price oriented and are similar to frugal consumers will be discouraged from purchasing green products. For that reason, it is proposed that frugality will be negatively related to the shopping behaviors outlined in the eco-action scale.

\[ H_{7a} : \text{EC will be positively related to ecological actions.} \]

\[ H_{7b} : \text{Tightwad will be negatively related to ecological actions.} \]

**Belief in Global Warming**

Global warming is an interesting and contentious issue. Not everybody agrees that global warming is a problem, some do not believe that global warming is real, and some have never heard of global warming. On the other hand, there are many who consider global climate change to be a serious problem that man has helped cause, and it is a problem that will have a serious negative effect on people and civilizations (ACNielsen 2007).

An investigation of the belief in global warming will provide an interesting contrast between environmentally concerned and frugal consumers. Corbett and Durfee (2004) found that belief in global warming varies across populations, and that environmentally concerned individuals have a consistent positive belief in global warming. In addition, they note that global warming has been called an invisible or unobtrusive issue because the average person does not have the real-world experiential conditions to shape their opinions or develop an understanding of the issue (Corbett and Durfee 2004). The media attention to global warming have caused some to call it a “celebrity social problem,” one that reaches national attention only when something remarkable (such as the summer heat wave of 1988) causes attention to be focused on it (Ungar 1992). Others have discounted global warming as bad science and hype (Crichton 2003). As such, the belief in global warming is a useful construct to investigate the differences between environmentally concerned and frugal consumers. Therefore, it is suspected that EC consumers will have a positive relationship to the belief in global warming. There seems to be an obvious link between concern for the planet, i.e. environmental concern, and concern for global warming.

On the other hand, there is little research published regarding a possible link between frugality and a belief in global warming. One could argue, however, because global warming is not perceived as a threat to a frugal consumer’s personal finances, there may be a negative relationship with global warming. Yet, there is much information that is available that suggests that there is a positive relationship between frugality and a belief in global warming. There are several organizations which promote frugality as a simple tactic consumers can use to positively impact the environment. Those espousing this view include the Union for Concerned Scientists (Brower and Leon 1999), and The Rocky Mountain Institute (Heede 2002). These groups argue that reducing one’s carbon footprint is a critical and necessary step toward addressing the
problem of global warming. They also indicate that the reduction in carbon emissions positively benefits one’s pocketbook. People who have a lower carbon footprint use less fuel because they drive less and live in smaller, more energy efficient homes. This means that those who actively pursue a lower carbon footprint lifestyle also spend less on energy, a benefit to the frugal minded consumer. It is through this logic that a positive relationship between tightwadism and a belief in global warming is founded. However, it will be hypothesized that environmental concern will have the greater effect on global warming because of the greater quantity and depth of research available.

\[ H_{8a}: \text{EC will be positively related to belief in global warming.} \]

\[ H_{8b}: \text{Tightwad will be positively related to belief in global warming.} \]

\[ H_{8c}: \text{Environmental concern will have a greater effect on a belief in global warming than environmental concern.} \]

**Table Two**

**Summary of Hypotheses**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a</td>
<td>Materialism will be negatively related to EC.</td>
</tr>
<tr>
<td>H1b</td>
<td>Materialism will be negatively related to frugality.</td>
</tr>
<tr>
<td>H1c</td>
<td>Materialism will have a greater effect on frugality than environmental concern.</td>
</tr>
<tr>
<td>H2a</td>
<td>The need for learning will be positively related to EC.</td>
</tr>
<tr>
<td>H2b</td>
<td>The need for learning will be positively related to frugality.</td>
</tr>
<tr>
<td>H2c</td>
<td>The need for learning will have a stronger effect on environmental concern than frugality.</td>
</tr>
<tr>
<td>H3a</td>
<td>Present-time orientation will be negatively related to environmental concern.</td>
</tr>
<tr>
<td>H3b</td>
<td>Present-time orientation will be positively related to frugality.</td>
</tr>
<tr>
<td>H4a</td>
<td>Liberalism will have a positive relationship with environmental concern.</td>
</tr>
<tr>
<td>H4b</td>
<td>Conservatism will have a negative relationship with environmental concern.</td>
</tr>
<tr>
<td>H4c</td>
<td>Liberalism will have a negative relationship with frugality.</td>
</tr>
<tr>
<td>H4d</td>
<td>Conservatism will have a positive relationship with frugality.</td>
</tr>
<tr>
<td>H5a</td>
<td>Environmental concern will be positively related to modest living.</td>
</tr>
<tr>
<td>H5b</td>
<td>Frugality will be positively related to modest living.</td>
</tr>
<tr>
<td>H5c</td>
<td>Frugality will have a greater effect on modest living behaviors than environmental concern.</td>
</tr>
<tr>
<td>H6a</td>
<td>Environmental concern will be positively related to recycling behaviors.</td>
</tr>
<tr>
<td>H6b</td>
<td>Frugality will be negatively related to recycling behaviors.</td>
</tr>
<tr>
<td>H7a</td>
<td>EC will be positively related to ecological actions.</td>
</tr>
<tr>
<td>H7b</td>
<td>Frugality will be negatively related to ecological actions.</td>
</tr>
<tr>
<td>H8a</td>
<td>EC will be positively related to belief in global warming.</td>
</tr>
<tr>
<td>H8b</td>
<td>Frugality will be negatively related to belief in global warming.</td>
</tr>
<tr>
<td>H8c</td>
<td>EC will have a greater effect on a belief in global warming than frugality.</td>
</tr>
</tbody>
</table>

**Empirical Method**

**Measures**

The measures used in the second study are from the first study, and from other research using the 3M model. The measures from the first study include the revised NEP scale, and the revised voluntary simplicity scales of recycling, eco-actions, and modest living. Also included in this study are the eight elemental traits, the tightwad scale and the need for learning scale from Mowen (2000), and scales to measure present time orientation (Mowen and Sujan 2005), liberal
and conservative values (Mowen et al. 2008), and a belief in global warming. While materialism is the only elemental trait that is hypothesized to have a relationship with the consequent traits in this study, the other seven traits are included in the analysis as control variables that minimize the possibility of illusory predictions (Mowen and Voss 2008). An illusory prediction is where a mid-level trait appears to have a relationship with a consequent trait, but that variance is actually accounted by one of the elemental traits. In addition, it provides the ability to identify new relationships.

Data Collection

Data for the second study was collected via an online survey from the internet research firm Zoomerang. The instrument for this survey was first written as a paper and pencil survey similar in form to the survey developed in study one. It was then converted into an online version via the upload process to Zoomerang.com. Zoomerang then presented the survey to their panel, the data that was collected was returned about five days later. The items in this survey are Likert-type questions, similar to what was done in Study One. One of the advantages of using a computer based survey over the paper and pencil method is that the subjects are not allowed to skip questions and leave an item blank. There were no blank items on the survey as the computer program required that all items must be filled out to complete the survey. Zoomerang offered this survey to 1000 members of its research panel, and 555 surveys were completed. Respondents were 52% female, median age is between 35 and 44 years old, with a 75% of the respondents having attended or completed college.

Results

Prior to analyzing the data, it was examined for its suitability for analysis. First, an examination was made to check for influential cases or outliers that might potentially have an impact on the study (Hair et al. 2006). Examination did not reveal any such cases. Second, the variables were checked for normality by examining their normal curves, and PP plots, of which all were deemed appropriate for further analysis.

Analysis One – Tightwad

The first analysis was run using hierarchical linear regression with tightwad as the dependent variable. The independent variables were the eight elemental traits on the first level, learning, present time, liberal and conservative as IV on the second level. Prior to assessing the results of the analysis, a further examination of the data was conducted to assess whether the data met the four basic assumptions of linear regression. First, the relationship between the independent and dependent variables was checked for linearity. Second, the error terms were checked for their independence, i.e. that they have no serial correlation. Third, the error terms were assessed for constant variance, i.e. the error terms are heteroscedastic. Fourth, the error terms were checked for normality. In addition, multicollinearity, or the presence of redundant dependent variables, was also tested. The results of these tests indicate that the data meets these assumptions.

The first model assesses the elemental traits on the DV, and the second model assesses the elemental traits and the compound traits on the DV. Both models are statistically significant (p<.000). The elemental traits account for 11% of the variance of tightwadism, while the elemental traits and the compound traits account for 16%. Analysis showed that the elemental traits of introversion, materialism, and body resources were related to the trait of tightwad, with
materialism having a negative relationship. This analysis provides support for hypothesis H1b, which proposed that materialism would be negatively related to tightwadism.

The second model indicates that the same elemental traits are significantly related to the trait of tightwad providing further support for hypothesis H1b. In addition, the compound traits of liberal and conservative values are significant, each with a positive relationship. This analysis provides support for hypotheses H4d which proposed that conservatism will have a positive relationship with tightwadism; however, the other hypotheses regarding the antecedents to frugality were not supported (hypotheses H2b, and H3b). One surprise from this analysis is the finding that liberalism has a significant positive relationship with tightwadism, counter to the prediction proposed in hypothesis H4c. See Table Four for a summary of beta coefficients for each analysis.

**Analysis Two – Environmental Concern**

The second analysis was run with NEP as the dependent variable. As was done with the first analysis, in model one the eight elemental traits were predicting NEP. The second model adds the compound traits of learning, present time, liberal and conservative values. Both models were statistically significant (p=.037 for the first model, p<.000 for the second model). The elemental traits accounted for little variance in the reduced NEP scale, just 2%, while the elemental traits combined with compound traits accounted for 17% of the total variance. None of the elemental traits were significant predictors of NEP. Thus, the analysis did not support hypotheses H1a which predicted a negative relationship between materialism and environmental concern.

Analysis for the second model revealed that all four compound traits were significant predictors of NEP. Hypotheses 2a, which proposed a positive relationship between the need for learning and NEP, was supported. Hypotheses 3a, which proposed a negative relationship between a present-time orientation and NEP was not supported. Counter to that prediction, a significant positive relationship was found. Hypotheses 4a and 4b were both supported, which predicted a positive relationship with liberal values and a negative relationship with conservative values.

**Analysis Three – Modest Living**

The purpose of the third analysis is to calculate the antecedents to the surface trait of modest living and to test the fifth set of hypotheses which predict the relationship NEP and tightwadism have with modest living. Modest living behaviors include buying used clothing and furniture, and making rather than buying gifts, clothing and furniture. As was done on the first two analyses, the eight elemental traits were used as independent variables for the first model. The second model adds the four compound traits, and the third model adds the two situational traits of NEP and tightwadism. In this analysis, all three models were significant (p<.000 for each). The percent of total variation of modest living (adjusted R squared) by the elemental traits is 8%, while the adjusted R² for the second model is 11%. The third model, which includes the traits of NEP and tightwadism, increased the accounted variance to 18%.

In this analysis, hypothesis 5a is not supported, while hypothesis 5b is supported (p<.000, β=.27). As such modest living behaviors are predicted by tightwadism, and not predicted by NEP. While not hypothesized, the third model also reveals that liberal and conservative values
are significant positive predictors of modest living ($p<.000$ for both, $\beta=.15$ for liberal, $\beta=.13$ for conservative). In addition, three elemental traits were revealed as antecedent to modest living. The first, conscientiousness ($p<.000$, $\beta=-.17$), which is the trait of being precise, efficient, and organized, has a negative relationship with modest living. The second, openness, ($p<.000$, $\beta=.18$), which is the trait of being imaginative, original and creative, has a positive relationship. Finally, the third elemental trait, instability, ($p<.05$, $\beta=.11$), which is the trait of being moody, temperamental, or touchy has a positive relationship with modest living.

**Analysis Four – Recycle**

The purpose of the fourth analysis is to test the sixth set of hypotheses and to reveal the other antecedents of recycling. Recycling behaviors include recycling cans, newspaper and glass. In this analysis, all three models are statistically significant ($p=.016$ for the first model, $p<.000$ for the other two models). The adjusted $R^2$ for the models are .02, .06 and .09 respectively. In this analysis, hypotheses 6a was supported ($p<.000$, $\beta=.18$), which predicts NEP’s positive relationship with recycling behaviors. On the other hand, hypotheses 6b, which predicts tightwad’s negative relationship with recycling behaviors was not supported.

While not hypothesized, analysis revealed only one other significant antecedent to recycling: present-time orientation ($p<.000$, $\beta=-.14$). Present-time orientation is a compound trait that indicates a focus on the present more than the future, an uncertainty in the future, and a preference for day-to-day living. This negative relationship with recycling suggests that those indicating a propensity to recycle do not have to concur with a present-time orientation.

**Analysis Five – Ecological actions**

The purpose of the fifth analysis is to test the seventh set of hypotheses. Ecological actions are the green-buying type behaviors of avoiding products made by companies that pollute, that use plastic foam packaging, or that come in aerosol containers. Hypotheses 7a predicted a positive relationship with NEP and hypotheses 7b predicted a negative relationship with tightwadism. All three models reached statistical significance ($p<.000$ for each, with an adjusted $R^2$ of .01, .16, and .29 for each of the three respective models). Analysis supported hypothesis 7a ($p<.000$, $\beta=.33$), and rejected hypotheses 7b ($p<.000$, $\beta=.17$).

In addition, the results suggest five other antecedents to recycling. Three elemental traits are significant predictors. The first two, conscientiousness and openness ($p<.05$ for both, $\beta=-.10$ for conscientiousness, $\beta=.20$ for openness) show a pattern similar to modest living. The third elemental trait is body resources, in which a person focuses on their body and spends time keeping their body healthy, has a positive relationship with ecological actions ($p<.000$, $\beta=.13$). The other two antecedents are liberal and conservative values ($p<.000$, $\beta=.18$ for liberal, $p<.005$, $\beta=.09$ for conservative).

**Analysis Six – Global Warming**

The final analysis is conducted to test the eighth set of hypotheses and to assess the antecedents of a belief in global warming. The belief in global warming is the belief that human behavior is causing the polar icecaps to melt and the weather to be more extreme. Hypothesis 8a predicts a positive relationship with NEP and a negative relationship with tightwadism. All three models reached statistical significance ($p=.015$ for the first model, $p<.000$ for the remaining two, with an adjusted R square for the models of .02, .17 and .50 respectively). Analysis supports
hypotheses 8a (p<.000, $\beta$=.62). The standardized beta for this analysis is the largest of any in this study. No significant relationship was found with tightwadism, rejecting hypotheses 8b. Further examination reveals three other antecedents to a belief in global warming. The first is the elemental trait of introversion (p<.000, $\beta$=.09). Introversion is the propensity toward being shy, bashful or introverted. The others two antecedents are the values of liberal and conservatism (p<.000, $\beta$=.10 for liberal, p<.05, $\beta$=.08).

**Discussion**

The results of Study Two provide an interesting picture of a frugal and environmentally concerned consumer. While not all of the proposed hypotheses were supported, the data did support several, and also provided keen insights to the antecedent and consequent traits of these two important consumer groups. It is important to note in the following discussion that the two consumer groups are similar in many ways, as expected, but also unique in their own ways. It is the uniqueness of these two groups that will provide the supporting arguments for the experiment in Study Three. As such, the first and second sets of hypotheses provide the strongest contrast between these two consumer groups. The following discussion will track the hypotheses in order.
<table>
<thead>
<tr>
<th>Table Three</th>
<th>One: DV-TWD</th>
<th>Two: DV-EC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Elemental Traits</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introversion</td>
<td>-.18***</td>
<td>0.15***</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>0.05</td>
<td>0.07</td>
</tr>
<tr>
<td>Openness</td>
<td>0.05</td>
<td>0.04</td>
</tr>
<tr>
<td>Agreeability</td>
<td>-0.06</td>
<td>-0.08*</td>
</tr>
<tr>
<td>Instability</td>
<td>0.05</td>
<td>0.02</td>
</tr>
<tr>
<td>Materialism</td>
<td>-0.30***</td>
<td>0.33***</td>
</tr>
<tr>
<td>Arousal</td>
<td>0.05</td>
<td>0.03</td>
</tr>
<tr>
<td>Body</td>
<td>.18***</td>
<td>0.16***</td>
</tr>
<tr>
<td><strong>Compound Traits</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Need for Learning</td>
<td>0.01</td>
<td>0.20***</td>
</tr>
<tr>
<td>Present Time</td>
<td>0.06</td>
<td>0.09**</td>
</tr>
<tr>
<td>Liberal</td>
<td>0.21***</td>
<td>0.27***</td>
</tr>
<tr>
<td>Conservative</td>
<td>0.25***</td>
<td>-0.11**</td>
</tr>
<tr>
<td><strong>Adjusted Rsquare</strong></td>
<td>0.11</td>
<td>0.16</td>
</tr>
</tbody>
</table>

Hypothesis 1a and 1b proposed that materialism will be negatively related to both environmental concern and tightwad, and that materialism will have a greater effect on tightwad than environmental concern (H1c). The data supports H1b but not the other two. These findings in support of H1b provide support for previous research from Mowen (2000) regarding the materialism/tightwad relationship. However, the results also reveal that materialism does not have a significant relationship with environmental concern. Therefore, the data suggests that those consumers who profess a concern for the environment do not have a consistent anti-
materialistic personality trait, whereas those who advocate a frugal lifestyle are more likely to also be anti-materialistic.

The second set of hypotheses proposed that the compound trait of need-for-learning will be positively related to both environmental concern (H2a) and tightwadism (H2b), with the need for learning having a stronger effect on environmental concern than on tightwadism (H2c). As was the case with the first set of hypotheses, the data supports one of the three hypotheses, but in this case, the support is for the relationship with environmental concern. As such, one may suggest that environmentally concerned consumers are more likely to practice and enjoy their cognitive faculties than frugal consumers.

The third set of hypotheses predicted that the compound trait of a present-time-orientation will be negatively related to environmental concern (H3a) and positively related to tightwadism (H3b). In this case, the data does not support either of the two hypotheses. The results fail to support H3b, which suggests that a present-time-orientation is unrelated to tightwadism, and reject H3a, which suggests a positive relationship to environmental concern. Therefore, the results are counter to the expectations proposed in this paper with regards to the present time/environmental concern relationship.

The fourth set of hypotheses was established to test the relationship of liberal and conservative values to environmental concern and frugality. It was proposed that liberalism would be positively related to environmental concern (H4a) and negatively related to tightwadism (H4c), and that conservatism would be negatively related to environmental concern (H4b) and positively related to frugality (H4d). The data supports three out of the four proposed relationships, rejecting H4b. Contrary to what was hypothesized, the liberal and conservative values are both positively related to tightwadism, while liberal values are positively related and conservative values are negatively related to environmental concern. These findings suggest that consumers who are committed to either end of the political spectrum are more likely to hold frugal traits, while those consumers that are not as committed to their political values are also less committed to hold frugal traits. On the other hand, liberal values do have a statistically significant positive relationship with environmental concern while conservative values have a statistically negative relationship with the environmental concern.

Admittedly, the logic regarding H4c and H4d was meager. Whereas political orientation has been consistently noted as a strong antecedent to environmental concern (Brechin and Freeman 2004; Brulle 1996; Dunlap et al. 2001), very little research has been conducted regarding political orientation and frugality. In fact, in the seminal piece by Lastovicka et al. (Lastovicka et al. 1999) political orientation was not at all considered as an antecedent to frugality. The basis for these hypotheses was found in the political struggles Colonial America experienced, where a conservative fiscal orientation was critical to the success of the community and country (Witkowski 1989) and to the conservative religious overtones of frugality (Dayton 1996; Gould et al. 1997). Yet the findings of this study suggest that the frugal are likely to be persons at the polar ends of the political spectrum.

The fifth set of hypotheses investigates the surface trait of modest living. Modest living behaviors include buying used clothing and furniture, and making rather than buying gifts, clothing, and furniture. It was hypothesized that both environmental concern and tightwad would
be positively related modest living (H5a and H5b) and tightwad would have the stronger relationship (H5c). The results gleaned from the data indicate that modest living behaviors are consequent to frugality, but not to environmental concern. This suggests that the voluntary simplicity behaviors of modest living (Craig-Lees and Hill 2002; Elgin and Mitchell 1977; Leonard-Barton 1981) are more likely to be practiced by the frugal than the environmentally concerned.

On the other hand, recycling behaviors showed the opposite relationship as modest living. The sixth set of behaviors proposed that environmentally concerned consumers would be likely to recycle (H6a) and that frugal consumers would not (H6b). The first hypothesis was supported by the data (p<.000, β=.18), but the second was not. While H6b was not significant at the p<.05 level, it is at the p<.10 level with a β=.08. These findings show that the situational trait of environmentally concerned is an important antecedent to recycling behavior, but that tightwadism is, at best, a minor antecedent. While the other aspects of recycling such as social norms (Hopper and Nielsen 1991), convenience (Ewing 2001) and awareness (Vining and Ebreo 1990) are likely stronger antecedents to recycling behavior, this analysis points out that between the environmentally concerned and the frugal consumers, it is the environmentally concerned who are more likely to recycle.

The seventh set of hypotheses propose that the environmentally concerned will be more likely to participate in ecological actions, i.e. the green purchasing tactics of choosing products that reduce pollution, are recyclable, and are made by environmentally friendly firms (H7a), while the frugal would be unwilling to practice ecological actions due to their higher costs (H7b). The data show that both environmental concern and frugality hold a significant positive relationship with ecological actions (p<.01 for both, β=.33 for environmental concern, β=.17 for tightwadism). Therefore, H7a was supported, and H7b was rejected. This finding suggests that both the frugal and the environmentally concerned see merit in the practice of buying non-polluting products and supporting environmentally friendly firms.

The last set of hypotheses considers the relationships between environmental concern and frugality and one’s belief in global warming. It was hypothesized that both environmental concern and tightwad would have a positive relationship with the belief in global warming (H8a and H8b), with environmental concern having the greater influence (H8c). Results of this study reveal that environmental concern does indeed have a positive relationship with the belief in global warming (p<.000, β=.62), supporting H8a. However, no support was found for a link between frugality and a belief in global warming (H8b, p>.10, β<.00).

Conclusion

The results of Study Two reveal a complex picture of the frugal and environmentally concerned consumer. The original intent of this line of research was to delineate the differences between the two consumers, both in their antecedents and in their consequent behaviors. The results of this study suggest that there are more differences than were first hypothesized. Some of the most interesting findings come from an examination of the behaviors of environmental concern and tightwadism.
First, environmentally concerned consumers are more likely to recycle and believe in global warming. This suggests that as municipalities and firms commence sustainability initiatives that include a recycling program, frugal consumers might not be as willing to participate as an environmentally concerned individual. On the other hand, frugals might be enticed to contribute to the recycling efforts if they see a reward for themselves (Fujii 2006), such as cash incentives. One such incentive is a two cent per bag discount some grocers offer to patrons who bring their own canvas grocer bags, rather than accepting the ubiquitous and noxious plastic grocery bag normally used. The belief in global warming also shows that frugal and environmentally concerned consumers are different. Therefore, a firm’s or organization’s sustainability initiative that includes references to global climate change will likely register a reaction from environmentally concerned individuals, but will not likely influence the frugal. This is important as advocates attempt to garner support and publicity for their efforts, such as at Louisiana State University where university officials are attempting to develop and build a culture of sustainable behavior among students, staff and faculty (Blum 2009).

Second, frugal consumers are more likely to exhibit the modest living behaviors of buying used clothing or furniture, and making things rather than purchasing them. This is an important finding for communities and organizations that deal with used household goods such as Goodwill, Habitat for Humanity, and other non-profit charities (Simpson 2009). As these organizations seek to collect and resell their wares, they will benefit most from their marketing activities by focusing on the frugal consumer and their traits rather than the environmentally concerned.

The third finding in this research is that both tightwad and environmentally concerned consumers are prone to purchase green products. This is a unique discovery of this research, for it is the only surface trait that is shared by both consumer segments. This finding supports Straughan and Roberts (1999) suggestion that additional attention should be paid to the psychographic variables of the green consumer. Green marketing is a sort of Holy Grail for marketers today who are keen to develop an advantage over their competitors (Ottman 1993; Polonsky and Rosenberger 2001). These advantages include promotional opportunities (Biddle 1993), and the ability to reach unique and distinct niche markets (Laroche et al. 2001; Meyer 2001). However, green marketing has not met all the potential credited to it by firms and consumers. For example, some consumers feel that green marketing is a trick to mislead or
deceive consumers (Carlson et al. 1993). Investors, too, are wary of green marketing initiatives by firms, such that firms that announce green marketing efforts suffer lower stock prices as a result (Mathur and Mathur 2000). While recognizing the advantages and disadvantages of green marketing, this finding from Study Two adds support to the argument that firms and organizations which use green marketing strategies are able to include both consumer groups as advocates and consumers.

Another interesting finding concerns the antecedent traits to frugality and environmental concern, such as the relationship that liberal and conservative values have with frugality and environmental concern. Both liberal and conservative values are positively related to tightwadism. Yet a different pattern appears for environmental concern, where liberal values are positively and conservative values are negatively related. These results suggest that frugality is not unique to conservative or liberal persons, but that those with more extreme conservative or liberal values will be frugal. On the other hand, as was expected, environmentally concerned individuals are more likely to be liberal, and quite unlikely to be conservative.

There is also a contrast between materialism and the need for learning. Results show that materialism has a strong negative relationship with tightwadism, but does not have a relationship with environmental concern. This result supports previous findings (Lastovicka et al. 1999; Mowen 2000) and suggests that tightwads are not likely to be materialistic and possess material goods considered luxuries, nor would they find that the ownership of valuable things was important. On the other hand, the environmentally concerned consumer has a strong need for learning. No relationship between need for learning and frugality were revealed. This finding suggests that environmentally concerned consumer enjoys learning and working with new ideas.

These two findings are important because they highlight two important and unique antecedent traits for frugal and environmentally concerned consumers. As firms and public policy makers attempt to persuade and influence these two important consumer groups, these results suggest that one message my not influence both groups. Suppose that a firm is interested in attracting consumers via green marketing. The results from study two suggest that both frugal and environmentally concerned consumers are interested and willing to purchase green products. However the motivations behind their interests in green products differ. As such, green products that are oriented toward a cognitive theme, such as detailed labels (Grankvist et al. 2004; Thogersen 2000) may be well received by environmentally concerned consumers, but yield little influence on frugal consumers. On the other hand, green products that are oriented toward an anti-materialism theme (Todd and Lawson 2003) may be better received by frugal consumers than environmentally concerned consumers. This line of reasoning will be further explored in Study Three.

STUDY THREE – A TEST OF MESSAGING THEMES

The purpose of the third study, which is underway at this writing, is to test the findings of the second study. The findings of that study suggest that a unique significant antecedent to the frugal is materialism, while the need for learning is uniquely significant to the environmentally concerned. If these findings are true, then a message with a materialistic theme will influence the frugal and not the environmentally concerned, and a message with a learning theme will influence the environmentally concerned and not the frugal.
Schema congruity theory (Fiske 1982; Fiske and Taylor 1991) will be used as the theoretical basis for this study. Schema congruity theory is used to explain how individuals process and categorize information. Schema congruity theory suggests that individuals evaluate information based on their expectations. As such, the sender of a message will be able to predict how the receiver will process and evaluate their message. This is particularly useful in this research, as it will allow managers and public policy makers the ability to influence promote the socially responsible behavior of sustainability.

**Research Hypothesis**

Based upon schema congruity theory, a message having an anti-materialistic theme will be perceived positively by the frugal and negatively by the non-frugal. The opposite should occur with a message having a materialistic theme. That is, the frugal will respond negatively and the non-frugal will respond positively. These results will reveal themselves via a significant interaction effect. The same type of pattern should occur for high and low EC consumers. That is, a message with a theme of learning will positively impact high EC consumers, but negatively impact low EC consumers. In contrast, a message with a theme inconsistent with learning will be perceived positively by low EC consumers and negatively by high EC consumers. These results will also reveal themselves via a significant interaction effect.

An important question concerns the type of experimental design to employ to test these predictions. This research employs two experiments, each a 2 x 2 x 2 full factorial design. In the design, frugality and EC will be measured constructs and median splits will be employed. The manipulated constructs are the message themes of high and low materialism for the first analysis, and high and low learning focus for the second analysis. It is predicted that a 3-way interaction will be obtained in each analysis. The pattern of the predicted interactions is shown in Figure 2a and 2b.

\[ H_{9a}: \text{ High EC will prefer a pro-learning themed message and reject an anti-learning themed message.} \]
\[ H_{9b}: \text{ Low EC will prefer an anti-learning themed message and reject a pro-learning themed message.} \]
\[ H_{9c}: \text{ Frugality will not have a relationship with learning themes.} \]
H₁₀ₐ: High Frugal will prefer anti-materialism themed message and reject a pro-materialism themed message.

H₁₀₆: Low frugal will prefer a pro-materialism themed message and reject a anti-materialism themed message.

H₁₀₆: Environmental concern will not have a relationship with materialism themes.
Methodology

To test these hypotheses, two 2x2x2 experiments are being carried out. The dependent variable is attitude toward the ad, measured by summing three semantic differential scales anchored by: “liked/disliked,” “pleasant/unpleasant,” and “did not enjoy/enjoyed.” EC and frugality are each measured independent variables. Subjects are first assessed with the constructs relevant to the 3M Model. Subjects are then exposed to one of five messages. The first is a control message, with a neutral theme. The second and third have either a pro or anti materialistic theme, and the final two have either a high or low need for learning theme.

The stimuli for the experiment will be a public service announcement endorsing a typical VS behavior common to both EC and frugal consumers. Pretests are currently being performed to determine how subjects view the messages to ensure the message is being accurately manipulated. Different types of consumer situations will be also tested so that any situational differences can be determined.
The sample will include a convenience sample of undergraduates recruited from marketing, fashion design, animal science, and forestry classes who will complete the experiment for extra credit. In addition, the sample will include adults recruited via a snowball sample. Participation will be voluntary. Subjects will be told that they are participating in a study regarding consumer choice. Data collection will be electronic via Qualtrics.com. Utilizing these methods, approximately 500 subjects are expected to participate, insuring adequate statistical power. Linear regression will be used to analyze the results.
APPENDIX A

Survey for Study One
Survey of Consumer Lifestyle and Motivation

Directions

This is an informed consent statement for search being conducted by Professor John Mowen in the Department of Marketing. Through this 15-20 minute survey we seek to understand the motives and personality traits that influence a number of different consumer activities. The results of this survey will be employed to develop an understanding of the individual difference variables that influence consumer behavior. The ideas behind the study will be discussed in class at a later date.

Your responses are confidential! The surveys will maintain in a locked office. When we enter data into the computer, your name will not be included. After entering in the data in the computer, we will destroy the surveys. You will receive two extra credit points for completing the survey. You are not required to complete the survey. If you do not wish to complete the survey, and desire to receive extra credit points, you can complete a one-page type written evaluation of a print advertisement by identifying the marketing concepts illustrated by the ad. There is no penalty for not completing the survey. You may turn in the survey with a statement on this page that you plan to do the one page write-up.

If you have any questions, please ask them to John Mowen (744-5112, BUS 323). In addition, questions may be directed to Dr. Sue Jacobs, IRB Chair, Oklahoma State University, 415 Whitehurst, Phone 405-744-5700.

I have read and I understand the procedure described above. I agree to participate in the procedure, and I have received a copy of this statement.

Name (print) _____________________________  Instructor _______________
Signature of Participant _____________________  Date: ___________________
I plan to do the one-page ad write up. No _____  Yes _____

First, please provide the below information.
What is your age? _______ years
What is your gender? Male  Female

Directions
For each item circle the number that best describes how frequently you feel or act in the manner described in your professional, leisure, and home lives. There are no right or wrong answers. Just circle the response that most accurately describes how you feel or act in your daily life, not how you wish you would act. Please note that some of the questions may appear to be similar to each other. It is important, however, that you answer ALL the questions!! Thanks.
<table>
<thead>
<tr>
<th>How often do you feel this way?</th>
<th>Never</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feel bashful more than others</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Introverted (e.g., avoid large groups of people)</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Quiet when with people</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Shy</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Precise</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Efficient</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Organized</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Orderly</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Frequently feel highly creative</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Imaginative</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Find novel solutions</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>More original than others</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Tender hearted with others</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Agreeable with others</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Kind to others</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Softhearted</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Moody more than others</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Temperamental</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Touchy</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Emotions go way up and down</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Enjoy buying expensive things</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Like to own nice things more than most people</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Acquiring valuable things is important to me</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Enjoy owning luxurious things</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Drawn to experiences with an element of danger</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Seek an adrenaline rush</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Actively seek out new experiences</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Enjoy taking more risks than others</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Focus on my body and how it feels</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Devote time each day to improving my body</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Feel that making my body look good is important</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Work hard to keep my body healthy</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>The distant future is too uncertain to plan for</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>I pretty much live on a day-to-day basis</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>The future seems very vague and uncertain to me</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>I focus on the present more than the future</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Enjoy learning new things more than others</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>People consider me to be intellectual</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Enjoy working on new ideas</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Information is my most important resource</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>
For the rest of the items, please circle the number that best indicates the extent that you “strongly disagree” to “strongly agree” with each of the statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am extremely liberal in my politics</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I am extremely liberal in my religious views</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Overall, people would describe me as a liberal individual.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I am extremely conservative in my politics</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I am extremely conservative in my religious views.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Overall, people would describe me as a conservative individual.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>We are approaching the limit of the number of people the earth can support</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Humans have the right to modify the natural environment to suit their needs</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>When humans interfere with nature it often produces disastrous consequences</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Human ingenuity will insure that we do NOT make the earth unlivable.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>We are approaching the limit of the number of people the earth can support</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Humans have the right to modify the natural environment to suit their needs</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>When humans interfere with nature it often produces disastrous consequences</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Human ingenuity will insure that we do NOT make the earth unlivable.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Humans are severely abusing the environment.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The earth has plenty of natural resources if we just learn how to develop them.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Plants and animals have as much right as humans to exist.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Humans were meant to rule over the rest of nature.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The balance of nature is very delicate and easily upset.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Humans will eventually learn enough about how nature works to be able to control it.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The earth is like a spaceship with very limited room and resources.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The balance of nature is strong enough to cope with the impacts of modern industrial nations.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>If things continue on their present course, we will soon experience a major ecological catastrophe.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The so-called “ecological crisis” facing humankind has been greatly exaggerated.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Despite our special abilities humans are still subject to the laws of nature.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Find that I have a hard time spending money on anything but necessities.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I act like a tightwad, and spend very little.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I like to keep my standard of living modest, because it makes me feel better.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Find that I can save easier than I can spend.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I get more enjoyment out of saving than spending.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>If you take good care of your possessions, you will definitely save money in the long run.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>There are many things that are normally thrown away that are still quite useful.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Making better use of my resources makes me feel good.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>If you can re-use an item you already have, there’s no sense in buying something new.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I believe in being careful in how I spend my money.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I discipline myself to get the most from my money.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I am willing to wait on a purchase I want so that I can save money.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>There are things I resist buying today so I can save for tomorrow.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I do not want to lose things that have brought me good luck.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I have to admit that sometimes I act like I am superstitious.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I sometimes perform little rituals to bring good luck to myself.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I have at least one good luck charm.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I believe that global warming is occurring</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I believe that humans are causing the polar icecaps to melt</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I believe that humans are causing the weather to be more extreme.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I believe that pollution is increasing the rate of extinctions of species.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

116
<table>
<thead>
<tr>
<th>Action</th>
<th>Never Do</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>Recycle used cans, bottles or paper</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Vote for a political candidate primarily because the candidate took strong environmental positions</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Cut back on driving or use public transportation more often.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Buy products made of recycled material whenever possible.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Avoid purchasing certain kinds of products because the packaging is excessive or environmentally harmful.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Avoid purchasing certain kinds of fresh food because of the chemicals used in food production.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Avoid purchasing products made by a company that pollutes the environment.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Buy products in packages that can be refilled.</td>
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<td>Buy a product because the label or advertising said it was environmentally safe or biodegradable.</td>
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<td>Avoid restaurants using plastic foam containers.</td>
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<td>Avoid buying products in aerosol containers.</td>
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<tr>
<td>Recycle newspapers used at home.</td>
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<td>Recycle glass jars and bottles used at home.</td>
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<td>Intentionally eat meatless meals.</td>
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<td>Contribute to ecological or conservation organizations.</td>
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<tr>
<td>Buy the furniture you need at a garage sale or second-hand store.</td>
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<td>Ride a bicycle or walk for transportation to work.</td>
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<td>Buy needed clothing at a second-hand store or garage sale.</td>
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<td>Ride a bicycle on errands close to home.</td>
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<td>Make gifts instead of buying them.</td>
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<tr>
<td>Make clothing or furniture for the family.</td>
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<td>Try to do your own home repairs instead of hiring someone.</td>
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<tr>
<td>Grow the vegetables the family uses during the summer season.</td>
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<tr>
<td>I, a family member, or friend changes the oil in the family car when it needs changing</td>
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APPENDIX B

Scales for Study One

Environmental Concern – NEP scale
1. We are approaching the limit of the number of people the earth can support. *
2. Humans have the right to modify the natural environment to suit their needs.
3. When humans interfere with nature it often produces disastrous consequences.
4. Human ingenuity will insure that we do NOT make the earth unlivable.
5. Humans are severely abusing the environment.*
6. The earth has plenty of natural resources if we just learn how to develop them.
7. Plants and animals have as much right as humans to exist.
8. The balance of nature is strong enough to cope with the impacts of modern industrial nations,
9. Despite our special abilities humans are still subject to the laws of nature
10. The so-called “ecological crisis” facing humankind has been greatly exaggerated.*
11. The earth is like a spaceship with very limited room and resources.*
12. Humans were meant to rule over the rest of nature.
13. The balance of nature is very delicate and easily upset.*
14. Humans will eventually learn enough about how nature works to be able to control it.
15. If things continue on their present course, we will soon experience a major ecological catastrophe.

Even numbered items are reverse coded.
Items 1,6,11 form limits to growth.
Items 2,7,12 form anti-anthropocentrism.
Items 3,8,13 form fragility of nature
Items 4,9,14 form rejection of exemptionalism.
Items 5,10,15 form ecocrisis.
* indicates items included in Study two and three.

Frugality
If you take good care of your possessions, you will definitely save money in the long run.
There are many things that are normally thrown away that are still quite useful.
Making better use of my resources makes me feel good.
If you can re-use an item you already have, there’s no sense in buying something new.
I believe in being careful in how I spend my money.
I discipline myself to get the most from my money.
I am willing to wait on a purchase I want so that I can save money.
There are things I resist buying today so I can save for tomorrow.

Tightwad
Find that I have a hard time spending money on anything but necessities
I act like a tightwad, and spend very little
I like to keep my standard of living modest, because it makes me feel better.
Find that I can save easier than I can spend
I get more enjoyment out of saving than spending

Need for Learning
I enjoy learning new things more than others
People consider me to be intellectual
I enjoy working on new ideas
Information is my most important resource
Present-time orientation
The distant future is too uncertain to plan for
I pretty much live on a day-to-day basis
The future seems very vague and uncertain to me
I focus on the present more than the future

Liberal and conservative values
I am extremely liberal in my politics
I am extremely liberal in my religious views
Overall, people would describe me as a liberal individual.
I am extremely conservative in my politics.
I am extremely conservative in my religious views.
Overall, people would describe me as a conservative individual.

Voluntary Simplicity (EcoAware)
Recycle newspapers used at home.
Recycle glass jars and bottles used at home.
Intentionally eat meatless meals.
Contribute to ecological or conservation organizations.

Voluntary Simplicity (Material)
Buy the furniture you need at a garage sale or second-hand store.
Ride a bicycle or walk for transportation to work.
Buy needed clothing at a second-hand store or garage sale.
Ride a bicycle on errands close to home.

Voluntary Simplicity (Self-determination)
Make gifts instead of buying them.
Make clothing or furniture for the family.
Try to do your own home repairs instead of hiring someone.
Grow the vegetables the family uses during the summer season.
I, a family member, or friend changes the oil in the family car when it needs changing

Frequency of Buying Green Products (Surface Trait)
Avoid purchasing certain kinds of products because the packaging is excessive or environmentally harmful.
Avoid purchasing certain kinds of fresh food because of the chemicals used in food production.
Avoid purchasing products made by a company that pollutes the environment.
Buy products in packages that can be refilled.
Buy a product because the label or advertising said it was environmentally safe or biodegradable.
Avoid restaurants using plastic foam containers.
Avoid buying products in aerosol containers.

Global Warming (Surface Trait)
I believe that humans are causing the weather to be more extreme
I believe that global warming is occurring
I believe that humans are causing the polar ice caps to disappear
I believe that pollution is increasing the rate extinction of species
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STATEMENT OF THE RESEARCH PROBLEM

As market transactions have become domesticated (Arndt, 1979), truly effective exchanges are defined by nonmarket governance to a greater extent than ever before (Dwyer, Schurr, & Oh, 1987; Sheth & Parvatiyar, 1995; Vargo & Lusch, 2004). Relationship marketing has evolved into a central paradigm of marketing research and practice (Palmatier et al., 2006) and is defined as “all marketing activities directed toward establishing, developing, and maintaining successful relational exchanges” (Morgan & Hunt, 1994, p. 22). The central objective of relationship marketing is to improve marketing productivity through increased effectiveness and efficiency (Sheth & Parvatiyar, 1994).

Relational governance (e.g., Macneil, 1980; Kaufmann & Stern, 1988) is facilitated mainly through the emergence of an array of relational norms, which regulate appropriate behavior of parties to an exchange and serve as benchmarks for the assessment of partners’ behavior. Lusch and Brown (1996) emphasize the significance of normative contracts in determining an assortment of shared assumptions and beliefs between the channel partners.

There is agreement on the notion that exchanges run on a continuum from discrete to relational (Macneil, 1980; Dwyer, Schurr, & Oh, 1987; Anderson & Narus, 1991; Heide & John, 1992). Narayandas and Rangan (2004) contend that industrial markets have experienced a shift from adversarial relationships with a focus on a single exchange to collaborative partnerships with a focus on forging enduring relationships through nonmarket modes of governance. Not only do such relationships provide a mechanism for organizations to stabilize their environments in the increasingly competitive and volatile market conditions (Berry, 1983), but they also reduce transaction costs, enhance productivity, and make it possible for customers and suppliers to enjoy higher economic returns (Noordewier, John, & Nevin, 1990; Kalwani & Narayandas, 1995).

The question of how relationships are commenced, maintained, cultivated, and discontinued has been of interest to marketing scholars for roughly three decades (e.g., Håkansson & Wootz, 1979; Dwyer, Schurr, & Oh, 1987; Narayandas & Rangan, 2004). In an attempt to explicate the range of governance structures that describe industrial buyer-seller relationships, Dwyer, Schurr, and Oh (1987) utilize relational contract theory (Macneil, 1980) and propose that relationships undergo five distinct stages of development: awareness, exploration, expansion, commitment, and dissolution. The first four subprocesses of relational development (excluding dissolution) can be understood as increasing magnitudes of interdependence (Gundlach & Cadotte, 1994).

The literature on relational life cycles suggests that interorganizational relationships follow a pattern similar to that of interpersonal relationships (Dwyer, Schurr, & Oh, 1987; Doherty & Alexander, 2004). Specifically, extant literature within the field of marketing that
focuses on the aspects of establishment and evolution of business relationships has utilized the marriage metaphor (Levitt, 1986; Dwyer, Schurr, & Oh, 1987; Stoltman & Morgan, 2002) and the friendship metaphor (Hogg et al., 1993) and concentrated on the essence of the actor affinity between the parties and the resource bonds involved. The two metaphors mentioned above suggest that a “marriage” or a “friendship” exists under the conditions of a long-term, collaborative orientation and reinforced resource bonds.

Notwithstanding the increased attention to the process through which industrial relationships evolve over time, there is limited empirical research on the post-commitment dynamics of such relationships. Extant literature, however, has shed some light on the process through which interfirm relationships dissolve (e.g., Hocutt, 1998; Ping, 1993, 1995, 1997, 1999; Vaaland, Haugland, & Purchase, 2004; Tähtinen & Vaaland, 2006). It is now widely accepted that relationship dissolution is a prolonged process with affective, behavioral, cognitive, and social aspects (Duck, 1982). Having achieved the commitment stage of relationship development, parties begin to reap the associated benefits of increased mutual dependence, social satisfaction, etc., which makes dissolution a highly unattractive option. The discussion below focuses on the post-commitment relationship progression issues within franchised channels of distribution.

In recent years, franchising has evolved as a highly substantial strategy for business growth, job creation, and economic development (Dant & Kaufmann, 2003). Roughly a decade ago, on a daily basis, a new franchise opened in the U.S. every six and a half minutes (Rubel, 1995). According to Reynolds (2004), when it comes to this day and age, over 760,000 franchised businesses produce a total economic output in excess of $1.53 trillion, which equals roughly to ten percent of the private-sector economy. Besides, they create 18 million jobs or closely to one out of every seven jobs in the U.S. labor force, supplying $506 billion in payroll, which constitutes more than eleven percent of the U.S. private sector payroll. Franchising has shaped itself into a strong and mature industry and gained importance as a viable entry mode strategy for international retail businesses expanding into foreign markets (Burt, 1993).

Doherty and Alexander (2004) study relationship development in international retail franchising and use the marriage analogy to propose four process stages: recognition, search, evaluation, and partnership. The franchise format offers attractive advantages both to the franchisor and the franchisee (Norton, 1988; Carney & Gedajlovic, 1991; Combs & Castrogiovanni, 1994; Kaufmann & Stanworth, 1995; Bradach, 1998; Fulop, 2000; Michael, 2000a, b). While the franchisor is able to expand its business and strengthen its brand image in a speedy manner, the franchisee gains access to a dependable business concept and an established brand, enjoys a guaranteed clientele from the start, is supported and trained by the franchisor, and earns a profit as a quasi-entrepreneur. These benefits, along with a binding contract, make the dissolution of franchising relationships particularly problematic.

Theoretical and empirical research conducted in marketing, management, economics, law, industrial sociology, and organizational theory offers a rather limited insight into how relationships across a wide range of interfirm contexts develop past the commitment milestone, thus making the post-commitment dynamics of interorganizational relationships an important overlooked area of inquiry. The premise that as marketing channel relationships achieve the state of maturation, the strength of the association between key relationship marketing variables
and performance weakens (Hibbard et al., 2000), makes the need to better understand what happens beyond the achievement of commitment even more acute. As a distinct and unique entrepreneurial venture, franchising makes it possible for franchisees and franchisors to reap appealing benefits by joining forces and cooperating to create economic value (Dant, Perrigot, & Cliquet, 2006). Given that franchising represents a primary hybrid form of vertical marketing system across the globe and a common strategy for international expansion, the necessity to gain novel insights into franchising relationships can only be expected to become more urgent.

This dissertation discusses the possibility that, as time progresses, the stage of commitment in the franchisor-franchisee relationship may, due to certain conditions within the franchised channel of distribution, be succeeded by a prolonged stage of channel-induced franchisee alienation, while dissolution of the relationship may never be reached. Lusch and Brown (1996), for instance, contend that the franchisee may view the option of continuing to remain part of the franchise as more stable than the option of withdrawing from the relationship and starting a new independent business. Figure 1 depicts how the proposed stage of channel-induced franchisee alienation fits into the framework developed by Dwyer, Schurr, and Oh (1987).

Figure 1.

Channel-Induced Franchisee Alienation within the Franchisee-Franchisor Relationship Evolution Framework

Grünhagen and Mittelstaedt (2000) contend that the franchisee (as opposed to the franchisor) perspective has received little research attention in the academic franchising literature. Drawing on social learning theory (Bandura, 1977), behavior constraint theory (Overmier & Seligman, 1967; Seligman, 1975; Abramson, Seligman, & Teasdale, 1978), and alienation theory (Seeman 1959, 1975), this dissertation proposes a model of channel-induced franchisee alienation. Presented in the dissertation is an attributional perspective of franchisee alienation that focuses on how an individual franchisee likely processes information about the operating environment of its franchised channel of distribution.

A CONCEPTUAL MODEL OF CHANNEL-INDUCED FRANCHISEE ALIENATION

The overarching theoretical framework that drives the proposed conceptual model of channel-induced franchisee alienation is based on social learning theory (Bandura, 1977), which, in its current formulation, posits that the pathway between a stimulus and a response is mediated by human cognition, while individual control is placed over behavioral responses to stimuli. Within social learning theory, the intrapersonal cognitive processes of an individual are emphasized with particular attention focusing on the individual’s attributions. Specifically,
Bandura (1977) asserts that behavior can be best explained in terms of interaction between cognitive, behavioral, and environmental determinants that is continuous and reciprocal in nature. It follows, therefore, that the individual and the environment influence each other in a bilateral fashion. It is mainly through their own actions that individuals generate the environmental conditions that affect their behaviors in a reciprocal manner. Besides, the experiences produced by behavior play a role in determining what the individual becomes and is able to do, which, in turn, influences posterior behavior.

Extending the seminal work of Bandura to the context of organizational behavior, Davis and Luthans (1980) suggest that social learning theory may serve as a much needed all-inclusive theoretical base that is capable of integrating the intertwined nature of the relevant variables of organizational behavior – the behavior, the environment (including other organizational actors and the organization), and the organizational actor (including inner cognitive processes). These authors advocate the premise that organizational behavior is in constant reciprocal interdependence with both the cognitive processes and the environment and propose a framework that effectively incorporates the interdependent, interchangeable nature of environmental events (i.e., antecedent discriminative stimuli (S) and consequences (C)), intrapersonal cognitive processes (O), and behavioral factors (B), thus making it possible to functionally analyze environmental-cognitive-behavioral events in a wide variety of organizational settings. This framework is known as the S (situation) – O (organism) – B (behavior) – C (consequence) paradigm in organizational behavior.

This dissertation studies the franchisee’s behavior in specific interaction with particular in situ conditions of the franchised distribution channel. Specifically, the proposed conceptual model of channel-induced franchisee alienation examines the mediating influence of the franchisee’s covert cognitions (feelings, images, and symbolic processes) on a recognizable sequence of events. The linkages between the building blocks of the conceptual model are deduced using the extant literature relevant to marketing channels and behavior constraint theory (Overmier & Seligman, 1967; Seligman, 1975; Abramson, Seligman, & Teasdale, 1978), a psychological theory proposing that the normal pattern of coping with environmental threats is one whereby an individual perceives a loss of control, reacts by attempting to regain control, and, if these attempts fail, experiences a sense of helplessness (Bothamley, 1993). Such helplessness is viewed as a psychological condition that is usually caused by situations, in which events are beyond control. The explication of more than just motivational deficiencies, the distinction between personal and universal helplessness, and the explanation of generality of helplessness across settings as well as its persistence over time make behavior constraint theory well-suited to studying relational aspects of franchised channels of distribution.

In particular, the proposed conceptual model suggests that the franchisee construes the climate of its relationship with the franchisor by processing cues from the operating environment of the franchised channel of distribution. The franchisee naturally regards unfavorable relationship climate as a substantial environmental threat and, therefore, having encountered such a threat, takes corrective actions aimed at remedying the adverse situation by rectifying the inadequate quality of its relationship with the franchisor. The franchisee then forms perceptions of controllability of the outcomes through assessing whether or not its attempts have actually succeeded or failed. The franchisee also makes causal attributions for the resulting perception of controllability. In case of perceived uncontrollability of the outcomes, the franchisee
experiences a sense of alienation, the intensity of which is determined by the resulting attribution. A sense of alienation on the part of the franchisee is responsible for the franchisee’s behavioral consequences. Because the proposed conceptual model focuses specifically on a franchised channel of distribution and those aspects of its operating environment that are most likely to induce franchisee alienation, the model is expected to provide valuable insights into the nature and process of channel-induced franchisee alienation. The proposed conceptual model is depicted in Figure 2.

Figure 2

A Model of Channel-Induced Franchisee Alienation
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YOU CAN’T PUT A PRICE ON LOVE: TABOO TRADE-OFFS AND THE SPENDTHRIFTY PURSUIT OF SACREDLY-REPRESENTED

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Most people would agree that it is difficult, if not impossible, to put a price on love. Yet purchases for events such as weddings, funerals, and anniversaries require consumers to do exactly that. We contend that products in the marketplace can be imbued with sacred meaning when they are to be purchased for sacred purposes. Products purchased for a wedding, for example, can come to represent the love and commitment of the bride and groom.

We investigate how consumers react when they have to decide between the quality of a sacredly represented product and the price they are willing to pay for it. The sacred values literature documents how people are reluctant to put a price on sacred “things.” Yet, some sacred purchases, such as those for a funeral, cannot be avoided. We compare how consumers make price-based trade-offs (e.g., trading off price vs. quality) for sacred and secular purchase decisions, and we show how a reluctance to trade price off against non-price attributes in a compensatory manner leads to the spendthrift consumption of sacred purchases. Consumers ignore price and make decisions based on differences in quality, for example, of the sacred product.

TABOO TRADE-OFFS IN THE MARKETPLACE

A growing body of literature examines consumers unwillingness to engage in trade-offs between the secular (e.g. money) and the sacred (e.g., love and commitment; Baron and Spranca 1997; Belk, Wallendorf, and Sherry 1989; Fiske and Tetlock 1997; McGraw, Tetlock, and Kristel 2003). The act of placing a price on sacred values such as one’s friendship or love effectively undermines that relationship, an act which is taboo (Tetlock, Kristel, Green, Elson, and Lerner 2000; Tetlock 2002). Consumers have a variety of reactions to taboo trade-offs, including moral distress, confusion, willful ignorance, and decision avoidance (Ehrich and Irwin 2005; McGraw et al. 2003; McGraw and Tetlock 2005; Luce 1998; Luce, Bettman, and Payne 1997; Luce, Payne, and Bettman 1999; Tetlock 2002).

Taboo trade-off research that investigates buying and selling behavior has examined reactions to purchase offers for possessions received from important others (McGraw and Tetlock 2005) and acquisition attempts for items once owned by emotionally close or distant individuals (McGraw, et al. 2003). In the former, consumers typically respond to taboo purchase offers with unusually high reservation prices in order to thwart a purchase, and in the latter, they often spend beyond their budget to acquire possessions owned by important others. In both situations, the behaviors express the high valuation that consumers put on these items, but the effects may be due, at least in part, to a reluctance to place a price on the item. Extreme values ensure that consumers won’t be “caught” undervaluing that loved one.

We use wedding and funeral purchases as case studies to investigate how consumers react when they must put on a price on purchases that come to represent a sacred value, like love, commitment, or respect.
Weddings and funerals are interesting case studies for a several reasons. Funerals and weddings are not trivial purchases; in fact they are among the most expensive purchases that consumers make. In the United States, the average funeral costs $6,500 (and can reach $10,000 with burial costs) and the average wedding costs more than $27,000 (AARP 2000; FTC.gov; Rheault 2007). Wedding and funeral purchases pose similar challenges to consumers. They are one-time events that consumers want to get “right,” they occur infrequently, typically cannot be avoided, and occur under time pressure, which can lead to suboptimal purchase decisions (see Dhar and Nowlis 1999). Moreover, the purchases are subject to public scrutiny (Ratner and Kahn 2002; Richins 1994), and can serve as an avenue to signal wealth (Bonsu and Belk 2003; Mead 2007).

The unique challenges documented in this brief review coupled with consumer susceptibility to sales and marketing tactics used in the wedding and funeral industries (Mitford 1998; Boden 2003; Mead 2007) can make consumers vulnerable (Fan and Zick 2004; Kopp and Kemp 2007a,b; Mead 2007; Mitford 1998). We aim to highlight one more challenge of these purchases: a reluctance to put a price on love contributes to spendthrift consumption.

**PRINCIPAL PREDICTIONS**

Previous findings indicate that consumers provide extreme reservation prices to taboo purchase offers, spend beyond their budget to acquire sacred possessions, and react to taboo trade-offs with distress and decision avoidance (e.g. McGraw et al. 2003; McGraw and Tetlock 2005). Drawing from these previous findings, we contend that consumers avoid taboo trade-offs inherent in sacred purchases in a predictable way -- by effectively ignoring the price component in transactions. To avoid making taboo trade-offs by ignoring price considerations leads to a preference for premium options relative to comparable secular transactions. However, when price is not involved in these transactions (i.e. only non-price attributes are traded-off) no value is undermined and the trade-off should no longer be taboo. Therefore, consumers will utilize compensatory decision strategies and trade-off attributes as they would in secular transactions (see Figure 1). Stated formally:

**H1A:** For purchases used for sacred means, consumers will be less likely to make trade-offs when price is involved in a trade-off than when it is not. Price will be discounted for sacred purchases. (“Sacred” column of Figure 1.)

**H1B:** When a price is involved in a decision, consumers are less likely to trade-off price against quality for products used for sacred means than for secular means. (“Price trade-off” row of Figure 1.)

When price is involved in a sacred purchase decision, consumers will underweight or ignore price and choose based on non-price attributes. This tendency will lead to the spendthrift purchase of premium products.
Figure 1

Hypothesized strategies for price and non-price trade-offs for sacred and secular purchase situations.

MATCHING VERSUS CHOICE

We use a matching vs. choice task, created by Slovic and colleagues, to investigate our hypotheses (Slovic 1991; Tversky, Sattath, and Slovic 1988; see also Luce, Bettman, and Payne 1997; Carmon and Simonson 1998). In the matching vs. choice task consumers are presented with two similar product options, such as two engagement rings. Consider the results of a pilot study shown in Figure 2. The products, engagement rings and caskets, which were accompanied by photos, vary on two attributes: price (i.e. cost) and quality (e.g., carat weight). One attribute, in this case, price, was missing for one of the product options, and the respondent’s task was to provide a missing value that “matches” the options, making them equally appealing. In matching vs. choice tasks, consumers are required to trade-off attributes during the matching portion, and then are asked to choose between options. If the attributes are equally important, we would expect that consumers choose either option with equal frequency; that is to say 50% would choose Option A and 50% would choose Option B. However, as shown by the results of our pilot study, nearly three quarters of respondents making wedding and funeral-related choices, chose the higher quality option, even after equating the options, such that they would be indifferent between the engagement ring or casket options. Respondents appear to be discounting price when making their choice. This is consistent with prior matching vs. choice results demonstrating that people chose based on the more prominent or important attribute.

Figure 2

Pilot Study (N = 32) results indicating higher quality option preference for wedding and funeral-related product choices. Mean matching values are italicized and underlined. Ring options had similar bands with different diamond sizes, casket options were similar in shape but differed in color, due to differences in construction material.

In our studies, we expect that when price is not involved in sacred purchases, consumers should tend to trade-off attributes such as quality or quantity in the choice, and thus, on average, should be about equally likely to choose one option as the other. However, when price is involved
in the sacred purchase, consumers should discount price and select based on the non-price attribute (e.g., choose the higher quality option).

**STUDY 1A & 1B**

**Study 1A**

We test H1A by comparing consumer choice patterns between similar sacred products (engagement rings) when price is and is not involved in the trade-off.

**Method**

Undergraduates at the University of Colorado (N=21, M_age=21) performed a series of twelve matching tasks for an engagement ring and were asked to provide the missing value that would make the two options equally appealing. The attributes in the task were price, diamond color, and diamond carat weight. Color and carat are two of the “4 Cs” (color, carat, clarity, and cut) by which the quality, and hence the price, of diamonds are determined. The carat weight of diamonds typically ranges from small (i.e. 0.1 carats) to large (i.e. 2.0 carats) and higher prices are associated with larger carat diamonds. A ten-point diamond color scale (See Figure 3) used by the diamond industry was adapted for this study; being colorless is associated with higher prices than yellow tinting. The matching tasks were made within-subjects and included combinations of attribute (price, carat, color) and matching (high and low), which resulted in twelve sets of stimuli (see Figure 4 for details). After completing the twelve matching tasks, participants were then asked to return to the beginning of the survey and choose the option they preferred.

**Figure 3**

<table>
<thead>
<tr>
<th>Option A</th>
<th>Option B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Color of diamond: “J”</strong></td>
<td><strong>Color of diamond: “F”</strong></td>
</tr>
<tr>
<td>D = Colorless 1</td>
<td>D = Colorless 1</td>
</tr>
<tr>
<td>E = Colorless 2</td>
<td>E = Colorless 2</td>
</tr>
<tr>
<td>F = Colorless 3</td>
<td><strong>F = Colorless 3</strong></td>
</tr>
<tr>
<td>G = Nearly colorless 1</td>
<td>G = Nearly colorless 1</td>
</tr>
<tr>
<td>H = Nearly colorless 2</td>
<td>H = Nearly colorless 2</td>
</tr>
<tr>
<td>I = Nearly colorless 3</td>
<td>I = Nearly colorless 3</td>
</tr>
<tr>
<td><strong>J = Nearly colorless 4</strong></td>
<td>J = Nearly colorless 4</td>
</tr>
<tr>
<td>K = Faintly tinted, usually yellow 1</td>
<td>K = Faintly tinted, usually yellow 1</td>
</tr>
<tr>
<td>L = Faintly tinted, usually yellow 2</td>
<td>L = Faintly tinted, usually yellow 2</td>
</tr>
<tr>
<td>M = Faintly tinted, usually yellow 3</td>
<td>M = Faintly tinted, usually yellow 3</td>
</tr>
</tbody>
</table>

**Cost of the ring: $1275**

Example of a color vs. price matching tasks. The colorless diamond has the greater its quality; therefore a diamond of “D” color is the highest in quality on this scale. During analysis alpha grades were given numeric codes (i.e. “F” was coded as 3, “J” coded as 7).
Study 1A matching task permutations, given and matched values, and respondent option choice. Aggregate choices by matching task type are displayed in the last three rows. Underlined and italicized values are mean matched values given by respondents.

Results

Matching tasks were collapsed into three conditions (price vs. carat, price vs. color, or color vs. carat) prior to analysis. When faced with a price vs. color matching task, participants overwhelmingly preferred their engagement ring choice to have a higher color diamond and high price than a lower color diamond with a lower price (90% vs. 10%, respectively). Similar results occur for price vs. carat weight matching tasks, with 88% of participants indicating a preference for engagement rings with larger carat diamonds with a higher price and 12% indicating a preference for smaller carat rings with a lower price. When price is not involved in the task and the rings vary in carat weight and color, 58% prefer the ring with better diamond color and 42% prefer the ring with a larger diamond (these percentages do not differ from 50%; $\chi^2 = 1.778 p > .15$). The percentage choosing the ring with a better color diamond when price is not involved in the trade-off is significantly less than when price is involved (42% vs. 90% respectively; $\chi^2 = 43.65 p < .001$). Likewise, the percentage choosing rings with larger carat diamonds is significantly less when price is not involved in the trade-off, than when it is involved (58% vs. 88%; $\chi^2 = 37.05 p < .001$). This result indicates that participants were underweighting price in trade-offs involving price, but were able to trade-off attributes when price was not involved in the trade-off.
These data provide preliminary support for H1A, which states that consumers will tend to discount price for purchases made for sacred means.

Study 1B
The purpose of this study was to provide a partial between-subjects replication of Study 1A using a community sample familiar with the purchase of engagement rings.

Method
Participants (N=22, Mage=31) were attendees to a bridal show in Boulder, CO. A naturalistic sample was used because attendees should be more familiar with diamond rings and the process of choosing diamond engagement rings than a convenience sample of undergraduates. In fact, 82% of our participants indicated that either they, or their partner, had previously purchased a diamond engagement ring. Participants were randomly assigned to one of two matching vs. choice tasks (Price vs. Carat (H) or Color vs. Carat (H) from Study 1A) and then completed the task (See Figure 5).

Results
Participants who completed the Price vs. Carat (H) task (N=11) and participants who completed the Color vs. Carat (H) task (N=11) gave similar carat size for matching values (Ms = 1.01 and .98 respectively, t < 1, n.s.). When choosing between the matched ring options, participants overwhelmingly chose the ring with a larger diamond than better (i.e., lower) price (91% vs. 9%, respectively), but when color is substituted for price, we find that consumers were indifferent between the ring with the better color diamond or the ring with a larger diamond (55% vs. 45%, respectively) (see Figure 5). Participants’ preference for engagement rings with larger diamonds depended on whether or not price was involved in the trade-off (χ² = 5.238 p = .022).

![Figure 5](image)

Results of Study 1B, mean match values are underlined and italicized. Lower values for color indicate better diamond quality.

This suggests that participants underweighted price when price was involved in the choice, whereas when price was not involved, consumers were able to trade-off the attributes.

STUDY 2

Study 2
The goal of Study 2 is threefold: 1) replicate the effect of discounting price for trade-offs involving sacred purchases, 2) test H1B which predicts that consumers will discount price for sacred purchase trade-offs but not secular purchase trade-offs, and 3) demonstrate that hypothesized effects occur regardless of whether the purchase is public or private.
Method

To address the three goals of Study 2, large, adult-sized, containers were used as stimuli (see Figure 6). Undergraduates (N=102) were randomly assigned to one of four conditions. In two conditions, the purpose for the container was to hold the body of the deceased prior to and during cremation, and in two other conditions the purpose of the container was to store a grandfather clock. The cremation was either to take place in public; where the choice of container is subject to scrutiny, or the cremation was to take place in private, where no one associated with the deceased would see the container choice. The grandfather clock was either bequeathed from a deceased loved one, making it a sacred possession, or received from a casual acquaintance who had moved away (not sacred). Participants considered a price trade-off (a price vs. quality matching vs. choice task; see Figure 6) and were asked to provide a price that would make either option equally appealing and next were asked to choose between the matched options. In all conditions, with the exception of nonsacred grandfather clock condition, the purchase of the container is associated with a loved one who passed away. We contend that participants would treat their container purchase as a sacred purchase, when it can be associated with the deceased loved one. Following H1B, it is expected that participants will underweight price for these sacred purchases when compared to similar purchases that do not represent sacred others.

![Figure 6](image)

*Sample stimuli from Study 2, Option A is lower in quality that Option B. Participants match the attributes by placing a price on Option B and were then asked to choose between match options. Participants in sacred conditions preferred the high-quality option (B).*

Results

H1B predicts that participants in the nonsacred condition will choose either option with equal frequency as compared to participants in sacred conditions. Additionally, if consumer choice is driven by the public nature of the choice, rather than the sacred nature of the purchase, we should expect differences between the public and private container conditions. Because the design of this experiment is not fully crossed, pairwise chi-square analyses tested for differences between conditions. The percentage of participants choosing the higher-quality container did not differ between public and private cremation container condition (92% vs. 88%, $\chi^2 < 1$ n.s.) suggesting the public vs. private purchase situation does not drive underweighting of price for sacred purchases. There were no significant statistical differences between the three “sacred” conditions, so they were pooled and compared to the remaining “nonsacred” (storage-
acquaintance) condition. This revealed significant differences between conditions (89% vs. 63% respectively, \( \chi^2 = 4.84, p = .044 \)). This study lends support for H1B, provides a conceptual replication of previous studies, and additionally supports the notion that the public nature of the choice is not a driving factor in choice, but further investigation is needed.

\[\text{Figure 7}\]

<table>
<thead>
<tr>
<th>Product Use</th>
<th>Situation</th>
<th>Price</th>
<th>Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cremation</td>
<td>Public</td>
<td>$49</td>
<td>$155</td>
</tr>
<tr>
<td>Cremation</td>
<td>Private</td>
<td>$49</td>
<td>$117</td>
</tr>
<tr>
<td>Storage</td>
<td>Loved One</td>
<td>$49</td>
<td>$116</td>
</tr>
<tr>
<td>Storage</td>
<td>Acquaintance</td>
<td>$49</td>
<td>$89</td>
</tr>
</tbody>
</table>

Consumer choice of higher quality container options by condition. Mean matching values underlined and italicized.

\[\text{STUDY 3}\]

Study 3

We simultaneously test H1A and H1B and the trade-off type by purchase domain interaction (Figure 1) and provide conceptual replications of Studies 1A, 1B, and 2. Purchase domain (sacred vs. secular) is treated as between-subjects factor and trade-off type (price vs. quality, price vs. quantity, quality vs. quantity) is treated as a within-subjects factor.

\[\text{Figure 8}\]

Sample stimuli (price vs. quantity matching task) from Study 3.

\[\text{Method}\]

Participants were undergraduates (N=113) at The University of Colorado, Boulder who received partial course credit in exchange for their participation. In this study participants
imagined they were planning either a memorial dinner (funeral condition/sacred), engagement dinner (engagement condition/sacred) or dinner (control condition/secular) that would be attended by friends and family. The size, temporal proximity, and attendees of these events were held constant across conditions. We asked participants in each condition to make all three types of trade-offs (price vs. quality, price vs. quantity, and quality vs. quantity) for two items (candles and flowers) to be used as part of the dinner. A price vs. quantity trade-off simply involves different quantities of the same product (Figure 8). Consistent with Study 1B, participants first completed all matching tasks and then returned to the beginning of the survey to choose their preferred option in each task. We predict that consumers will underweight price, but only for sacred purchases, and only when price is involved in the trade-off. We expect no significant differences between the other three conditions.

Results

Participants in the two sacred conditions (engagement and funeral) did not differ in preference for quality when making price vs. quality trade-offs, or in preference for quantity when making price vs. quantity trade-offs. Furthermore, participants in these conditions had the same preferences for quality and quantity when making quality-quantity trade-offs ($\chi^2 < 1$, n.s. for all comparisons). Memorial and engagement conditions did not significantly differ, so they were collapsed into a single sacred purchase condition and subsequently compared to the control condition in a repeated measures General Linear Model. This revealed a significant main effect of condition $F(1, 111) = 9.509, p = .003$, qualified by a significant choice type x condition interaction, $F(1, 110) = 3.88, p = .022$, indicating that individuals choose different product attributes for sacred purchases than secular purchases.

Comparing the percentage of consumers that prefer quality (Figure 9) and quantity (Figure 10) across sacred and secular conditions provides a more direct comparison of attribute preference and the most appropriate test of our specific hypotheses. Specifically, consumer preferences for quality and quantity as inferred from quality vs. quantity trade-offs (in both sacred and secular conditions) serve as our basis of comparison. Comparisons detailed in Figure 9 are made between the percentage of consumers choosing quality in price vs. quality trade-offs and baseline quality preferences as inferred from quality vs. quantity trade-offs. Similarly, comparisons detailed in Figure 10 made between the percentage of people choosing quantity in price vs. quantity and baseline quantity preferences as inferred from quality vs. quantity trade-offs. Consistent with previous studies, when making price vs. quality trade-offs, participants in the sacred condition demonstrate a greater preference for quality than secular condition participants. However, participants in sacred and secular conditions do not differ in their preference for quality when price is not involved in the trade-off ($F(1, 111) = 8.206, p < .01$) (for details see Figure 9). Also conceptually consistent with previous studies, greater preference for high-quantity options occurs in the sacred condition, as compared to the secular condition, when price is involved in the trade-off, but quantity preferences do not differ between conditions when price is not involved in the trade-off ($F(1, 111) = 3.687, p < .06$ (see Figure 10). These two interactions test the full 2X2 model shown in Figure 1 and provide conceptual replications of the effects demonstrated in Studies 1A, 1B & 2.

These interactions indicate that for sacred purchases, consumers are underweighting price relative to secular purchases. Furthermore, we see that when price is not involved in the trade-
off, sacred product consumers are no more likely than control to choose the high-quality or high-quantity option. These data provide additional evidence for our hypotheses.

**Figure 9**

Trade-off type by purchase domain interaction with preference for quality as the dependent variable.

**Figure 10**

Trade-off type by purchase domain interaction with preference for quantity as the dependent variable.
CONCLUSION
We observe that consumers predictably react to price trade-offs for product purchases made for sacred means; they discount price and focus on nonprice attributes at the moment of choice. We contend that this effect contributes to the spendthrift consumption of sacred purchases relative to secular purchases. We show that these tendencies occur regardless of the emotions (happy or sad) associated with the event, which have been shown to influence decisions. (see Arndt et al. 2004; Cryder et al. 2008; Luce 1998; Mitford 1998; Schwartz, Jolson, & Lee 1986). And we also show that these effects occur without regard to the public or private nature of the purchase (Study 2) and without regard to the time pressure associated with the event (Study 3).

FUTURE DIRECTIONS
Since consumers effectively avoid trading off price in sacred domains and demonstrate a preference for premium options, they may unintentionally place themselves in financial risk, especially for large purchases that aggregate many smaller purchase decisions (such as weddings and funerals). This research has implications for marketers, public policy and consumer advocates, as well as consumers themselves. Informing consumers of their susceptibility to these types of purchases may be beneficial to consumer welfare.

If consumers want to avoid price trade-offs for sacred purchases, marketers of products used for sacred purposes may develop pricing heuristics to influence consumers. For instance, DeBeers the large diamond cartel, promotes a two-month salary rule for choosing an engagement ring, a strategy. This heuristic removes price trade-offs by providing a reference point for engagement ring shoppers. For some common sacred purchases, such as wedding gifts, consumers themselves have developed spending heuristics. Many individuals deciding how much to spend on a wedding gift, budget amounts that approximate the cost of the meal served. Marketers and consumers alike, have developed these budgetary heuristics to guide unavoidable purchases for important others, but heuristics do not exist for all such purchases. Future research should investigate the role of spending heuristics in guiding consumer decisions, and specifically, if these heuristics measurably reduce the difficulty of decisions and consumer’s tendency to overspend. Additionally, the effect of product bundling on decision difficulty and overspending tendencies could also be investigated. Weddings and funerals, for instance, consist of many different purchases where consumers may avoid multiple price trade-offs by purchasing bundles of products and services, if multiple purchases are bundled, consumers have to consider fewer trade-offs and may be more compensatory in their decisions.

Choice is the focal consumer behavior in our investigation, however, if the process we hypothesize is correct, we should observe theoretically similar effects with other consumer tasks. For example, we would expect consumers to engage in greater search to maximize non-price aspects of a sacred purchase than minimize price aspects. That is, consumers would be more likely to drive across town to find a better quality engagement ring at the same price than to do the same for a better priced ring of the same quality. Additionally, consumer should demonstrate superior memory for the non-price attributes of sacred purchases. For example, as consumers are exposed to objects in their consideration set, they may be more likely to remember non-price attribute values (as opposed to its price) for a sacred purchase than a secular one. Further research in such domains may prove fruitful.
REFERENCES


Consider for example a brand like Nike. This brand is present in a number of product categories like sports shoes, apparel, wrist watches etc. Moreover, one of the beliefs which are strongly associated with Nike is “athletic”, as most of the product categories associated with the brand are related to different kind of sports. Consider for example another brand like Johnson & Johnson. This brand is also present in a large number of product categories like hygiene, healthcare, baby products etc. Moreover, gentle and soft are believes which are strongly associated with this brand. How knowing these help us in launching an extension?

Previous research (Mao and Krishnan 2006) has studied brand extension evaluation in the context of a multi product brand (e.g., Nike and Johnson & Johnson) where fit with either the existing product or the belief associated with the brand leads to a favorable evaluation of the extension. However, no studies till date has investigated the two dimensional fit construct proposed by Mao and Krishnan (2006), in a cross cultural context.

It is interesting to note that the multinational companies have the same type of extensions across different countries. However, recent research in global marketing has shown strong evidence of the differences in the processing of marketing stimuli across cultures (e.g., Aaker and Maheswaran 1997; Mandel 2003; Tavassoli 1999). The nature of self construal (the independent self construal of the North Americans and the interdependent self construal of the East Asians) has shown to affect the mode of cognition one adopts as also various aspects of consumer behavior like; the reactions to the advertising messages (Aaker and Williams 1998), regulatory focus adopted by individuals with different self construal (Aaker and Lee 2001) and decision making (Mandel 2003). The purpose of the present research is to see the impact of the different modes of cognition adopted by individuals across cultures, specifically the analytical processing style of the North Americans and the holistic processing style of the East Asians (Nisbett et al. 2001), in the evaluation of a multi product brand extension.

What happens in case of an extension failure? John et al. (1998) identified that extension failure can have negative impact either at the brand level (the general belief associated with the brand) or the product level (the existing products of the brand). They showed that parent brand belief is more vulnerable to dilution effect compared to the same belief associated with the flagship product (the product which is most closely associated with the brand, shoes for Nike). For example, if soft is a belief associated with both the brand and flagship product of Johnson & Johnson then failure of an extension on the softness attribute will dilute the soft belief associated with the brand but not the soft belief associated with the flagship product. Does this hold true in a cross cultural context? Is the flagship product always less vulnerable to dilution effect compared to the parent brand? Unfortunately there are no studies which address this issue.

We address the above mentioned issues in this paper and is organized as follows: (1) we briefly define self construal as an individual difference factor across cultures and its impact on the mode of cognition adopted by individuals with different self construal, (2) next we see that
how different modes of cognition lead to the differential accessibility of various brand associations in memory, and (3) finally how these different brand associations moderates the usage of the two dimensional fit construct for evaluating an extension of a multi product brand, the negative impact of extension failure and the enhancement effect of extension success.

**THEORETICAL FRAMEWORK**

**Self construal and cognition**

Self construal is defined as the way in which an individual sees oneself with respect to others and the environment (Markus and Kitayama 1991). Independent self construal (hereby referred to as “independents”), common to members of the Western culture such as North America, defines the individual as separate from others, while the interdependent self construal (hereby referred to as “interdependents”), defines the individual as connected to others in the society. Individuals with interdependent self construal consider themselves as a part of the larger society, in which they are embedded (Markus and Kitayama 1991; Triandis 1989). Thus, individuals with independent self construal see themselves as distinct from others while those with interdependent self construal try to maintain harmony with others (Heine, Lehman, Markus and Kitayama 1999).

This view of the self as distinct or part of others influences the cognition adopted by individuals across different self construal (Nisbett et al. 2001). Independents, with the goal of being distinct from others, adopts an analytical processing style, which “involves a detachment of the object to assign it to categories, and a preference for using rules about the categories to explain and predict the object’s behavior” (Nisbett et al. 2001, p.293). While the goal of fitting in with others and fulfilling social roles and obligations lead to the adoption of holistic processing by interdependents (Nisbett et al. 2001), “involving an orientation to the context or the field as a whole, including attention to relationships between the focal object and the field, and a preference for explaining and predicting events on the basis of such relationships” (Nisbett et al. 2001, 293).

Moreover, the analytical style of thinking leads to the abstraction of features of a behavior from a context while holistic thinking leads to see behavior as context bound (Cousins 1989) phenomena. Because of the abstraction of information from the context, the independents possess strong belief about the “traitedness” of behavior (Church et al. 2003) while focusing on the context makes the interdependents to remember more concrete examples of a particular behavior. For example, John lends us money when we run out or he gives us presents when he visits us are context bound examples of the abstract concept of John being generous (Cousins 1989).

**Cognition and brand associations**

Do this difference in self construal and its accompanying styles of thinking impact the accessibility of different brand associations (Keller 1993) in the consumer’s mind? Brand association is defined as any information about the brand that is connected to the brand node in memory (Keller 1993). This association may either be very abstract (Rolex is prestigious) or concrete (Rolex stand for wrist watches).

The different styles of thinking impact how these associations are stored in the memory of the interdependents and the independents. Ng and Houston (2006) have shown that the focus
on abstraction of behavior makes the overall brand beliefs to be more accessible to the independents compared to the concrete examples or the exemplars of the brand; while a focus on context and the accompanying relationships thereby, lead to the concrete associations or the exemplars of the brand to be more accessible to the interdependents compared to the overall brand beliefs. Thus, the abstract concept of Sony being stylish will be more accessible to the independents compared to Sony TV, while just the reverse is going to hold true for the interdependents.

**Accessibility and brand evaluations**

Mao and Krishnan (2006) have shown that in a multi product brand extension, consumers use a two dimensional fit construct to evaluate the extension. If we consider the attitude transfer model for evaluating an multi product brand extension (Aaker & Keller 1990), then attitudes can transfer from either the prototype (the generalized imagery of the brand or the overall beliefs associated with the brand) or the exemplar (the existing product of the brand or a concrete example of what the brand stands for) to the extended product. However, the use of this two dimensional fit construct is not well established. Cognitive resource was found to moderate the use of this two dimensional fit construct such that in a high resource condition a prototype based extension is evaluated more favorably than an exemplar based extension while in the low resource condition both were evaluated favorably (Mao and Krishnan 2006).

Are there any other factors that are going to moderate the usage of this two dimensional fit construct, such that in one condition the prototype based extension is evaluated more favorably than an exemplar based extension while just the reverse is going to happen in some other condition?

Previous research in person perception has shown that individuals often use the most accessible construct from memory in the subjective evaluation of a person, provided there is no motivation for effortful processing of information (Feldman and Lynch 1988; Higgins, King, and Mavin 1982). “Most information processing is guided by cognitive economy” (Ahluwalia and Canli 2002, p 374), we expect that the differential accessibility of the various brand associations are going to moderate the evaluation of a multi product brand extension across different self construal.

We organize the hypotheses around the respondents’ self construal – independent or interdependent. Abstract or the prototype view of the brand is more accessible to the independents while the concrete or the exemplar view of the brand is more accessible to the interdependents, thus it is proposed that:

**For Independents:**

H 1a: Individuals with independent self construal will evaluate an extension more favorably based on the most accessible prototype of the brand compared to that of the interdependents.

H 1b: Individuals with independent self construal will evaluate a extension based on the most accessible prototype of the brand more favorably than the extension based on the most accessible exemplar of the brand.
For Interdependents:

H 2a: Individuals with interdependent self construal will evaluate an extension more favorably based on the most accessible exemplar of the brand compared to that of the independents.

H 2b: Individuals with interdependent self construal will evaluate a extension based on the most accessible exemplar of the brand more favorably than the extension based on the most accessible prototype of the brand.

DILUTION EFFECT

The negative impact of extension failure has been studied extensively in the literature (Loken and John 1993, John et al 1998). Ng (forthcoming) has also addressed the issue of extension failure in a cross cultural context. But there is no study that has addressed the negative impact of the extension failure in the multi product brand context. Is self construal, as an individual difference factor across cultures, going to moderate the dilution effect?

It is seen that, extension failure may impact the various associations (the general belief associated with a brand and the various product categories associated with a brand) of a brand (Keller 1993) in a differential manner. For example, John et al. (1998) studied the impact of extension failure at the brand and the flagship product level (the product which is most closely associated with a brand, shoes for Nike) of the brand. It was found that belief associated with the flagship product is less vulnerable to dilution compared with the belief associated with the parent brand. For example, they found that the belief gentleness was associated with the Johnson & Johnson brand as also the Johnson & Johnson shampoo. Now, when an extension (bath powder) failed on the gentleness attribute then it diluted the gentleness belief associated with the Johnson & Johnson brand but not the shampoo.

Is this also going to hold true for individuals having different self construal (the previous study by John et al.(1998) was conducted with American subjects)? Is the flagship product always shielded from the negative impact of an extension failure? We provide an accessibility based explanation of the negative impact of extension failure at the flagship product level of a brand and how this dilution is moderated by the self construal of an individual. We investigate this dilution effect in the same context (multi product brand – Johnson & Johnson) as was done in the previous study (John et al. 1998).

As is discussed in a previous study, a multi product brand has two distinct associations-prototype and exemplar (Mao and Krishnan 2006) and the accessibility of these two types of association varies across individuals with different self construal (Ng & Houston 2006). Is this accessibility of the different brand associations going to impact the transfer of attitude from a failed extension? No studies in the extension failure literature have addressed the negative impact of extension failure from the accessibility viewpoint. We propose that the differential accessibility of the brand associations across different self construal is going to moderate the impact of extension failure across the two levels of the brand (the brand level and the flagship product level) and this negative impact is also going to be moderated by the nature of extension.

If Johnson & Johnson launches gentle hand soap it will be an extension based on the overall belief of the brand Johnson & Johnson being gentle and if it launches baby nail cutter it
will be an extension based on the most accessible exemplar or the flagship product, baby shampoo. We propose the flagship product as the most accessible exemplar of the brand based on the definition of the flagship product by John et al. 1998 (“the most visible embodiment of the brand name, serving as a concrete example of everything important that the brand name stands for”). Is the failure of the two different types of extensions (as mentioned above) has a differential effect at the two levels of the brand? We extend previous research in brand extension failure to determine which of these two failures – exemplar or prototype based, is going to dilute the brand level or the flagship product level and how this negative impact is going to be moderated by the self construal? We propose the following accessibility based dilution effects:

**H 3a:** Extension failure is going to dilute only the brand level attitude for the independents. Moreover, this dilution effect will result from the failure of a prototype based extension but not from the failure of a flagship product based extension.

**H 3b:** Extension failure is going to dilute only the product level attitude for the interdependents. Moreover, this dilution effect will result from the failure of a flagship product based extension but not from the failure of a prototype based extension.

**BRAND ENHANCEMENT EFFECTS**

The impact of extension success on the evaluations of the family brand name has been studied extensively in the literature (Canli & Maheswaran 1998; Ahluwalia & Canli 2000). However, no studies till date have seen the affect of self construal in the context of brand enhancement.

We study this enhancement effect in the context of a multi product brand and see how self construal moderates this effect. We offer an accessibility based explanation of the enhancement effects not seen previously in the brand extension literature. We propose that the differential accessibility of the brand associations across self construal is going to moderate the enhancement effect across the product and the brand level, more specifically:

**H 4a:** Extension success is going to positively impact only the brand level for the independents. Moreover, this enhancement effect will result from the success of a prototype based extension but not from the success of an extension based on the most accessible exemplar of the brand (the flagship product).

**H 4b:** Extension success is going to positively impact only the flagship product level of the brand for the interdependents. Moreover, this enhancement effect will result from the success of an extension based on the most accessible exemplar of the brand (the flagship product) but not from the success of an extension based on prototype of the brand.

To test the above hypotheses, three studies were conducted. All the studies were conducted in the context of a multi product brand. The goal of the first study is to see the favorability of the two different types of extensions across different self construal. Study 2 examines the dilution affect across the different levels of the brand and how this affect is
moderate by self construal and the nature of the extension. Study 3 replicates the findings in the previous two studies in the context of extension success.

STUDY 1: FAVORABILITY OF BRAND EXTENSIONS ACROSS CULTURES

The purpose of this study was to see the impact of self construal in the evaluation of different types of extensions, prototype or exemplar based, in the multi product brand context. A series of pretests were conducted to design fictitious extensions based on the prototype and exemplar view of the brand, Johnson & Johnson.

Johnson & Johnson was chosen as a multi product brand as it was used in previous studies (Mao & Krishnan 2006) and also because: (i) the brand has multiple product types, (ii) the brand has established prototype and exemplars, and (iii) the prototypes and exemplars are positively evaluated. The favorability of both the prototype and exemplar of Johnson & Johnson is again re-established in our study through a pretest, which will be discussed in the next section.

Pretest 1

This was done to establish the most accessible prototype and the most accessible exemplar of Johnson & Johnson, as accessibility of the different brand associations is proposed as the reason for the differences in the evaluation of the different types of extensions. Thirty five students from a large university were asked to briefly describe Johnson & Johnson with five different adjectives and also to name three products which they thought as most closely associated with Johnson & Johnson. Results of the pretest showed that the adjective which was most popular with the Johnson & Johnson brand was “soft” (Nineteen of the respondents mentioned this compared to only eleven mentioning “babyish” as an adjective associated with the brand) and the product which was most popular with Johnson & Johnson was “shampoo” (Nineteen of the respondents mentioned this compared to thirteen mentioning “lotion” as the product most closely associated with the brand). Thus, the results of the first pre-test established that the most accessible prototype and the most accessible exemplar (the flagship product) of Johnson & Johnson are “soft” and “shampoo” respectively.

Pretest 2

The purpose of the second pretest was to see whether the fit manipulations of the extensions based on soft and shampoo were successful. Two fictitious extensions were designed based on the prototype of the brand (soft) : Johnson & Johnson fabric softener and Johnson & Johnson soft toys and two more fictitious extensions were designed based on the flagship product of the brand (shampoo) : Johnson & Johnson hair color and Johnson & Johnson hair gel. Following past research (Mao and Krishnan 2006, Dacin and Smith 1994), fifty seven students were asked to rate Johnson & Johnson fabric softener and Johnson & Johnson soft toys as being similar to the brand and the flagship product of the brand on a three item scale (the types of need satisfied, situations in which the products are used, and physical features). Similarly, fifty three students were asked to rate Johnson & Johnson hair color and Johnson & Johnson hair gel as being similar to the brand and the flagship product of the brand. Results of the pretest showed that only two extensions satisfied the fit manipulations. Johnson & Johnson fabric softener was rated to be closer to the prototype of the brand compared to the exemplar of the brand ($M_{Prototype Fabric Softener} = 4.59 (1.43)$ and $M_{Exemplar Fabric Softener} = 2.90 (1.16)$, $t (27) = 6.57, p < 0.00$) while Johnson & Johnson hair color was rated to be closer to the flagship product than the prototype of the brand ($M_{Prototype Hair Color} = 3.85 (1.69)$ and $M_{Exemplar Hair Color} = 4.70 (1.38)$, $t (28) = 3.11$, $p < 0.00$).

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p < 0.00). Therefore, we conclude that Johnson & Johnson fabric softener is a prototype based
extension while the Johnson & Johnson hair color is flagship product based extension. Moreover,
the prototypicality of the Johnson & Johnson fabric softener was not significantly different from
the exemplariness of the Johnson & Johnson hair color (M Prototype Fabric Softener = 4.59 (1.43) and
M Exemplar Hair Color = 4.70 (1.38), t (108) = 0.74, p > 0.05). Therefore, ruling out the differences
in the two types of fit manipulations in explaining the predicted pattern of results or in other
words both the prototype and the exemplar manipulations did not differ in their fit manipulation.

Pretest 3

The purpose of pretest 3 is to see whether there is any difference in the evaluation of the
brand and the flagship product of Johnson & Johnson. This is done to rule out the differences in
the favorability of the two dimensions of fit on the evaluation of the prototype and exemplar
based evaluation. Twelve subjects each were asked to evaluate the Johnson & Johnson brand and
Johnson and Johnson shampoo on three seven point scales anchored on negative/positive, bad/good and not at all unfavorable/very favorable (Sujan and Bettman 1989). Results of the
pretest showed that there is no significant differences in the evaluation of the Johnson & Johnson
brand and its flagship product, shampoo (M Brand = 5.22 (0.85) M Shampoo = 5.13 (0.92), t (11) =
0.680, p > 0.10). It may be noted here that twelve students each were asked about the brand and
shampoo separately to prevent the evaluation of one being influenced by the other. As is seen in
the pretest results the evaluation of both the brand and the flagship product are moderate. This is
important to demonstrate both dilution and enhancement effect without the potential of ceiling
effect.

Pretest 4

A separate set of fifteen students each rated the familiarity of Johnson & Johnson brand
and Johnson & Johnson shampoo on a seven point scale, there was no significant difference
between the two (M Brand familiarity = 5.13 (1.12), M Shampoo familiarity = 5.00 (1.01), t (14) =
0.33, p > 0.05). Therefore, ruling out familiarity as an alternative explanation in the obtained set of
results in the main experiment.

Pretest 5

The purpose of this pretest is to see whether the priming manipulations we are going to
use in this study activates the independent and the interdependent self. Students were exposed to
two manipulations, the Sumerian warrior story and the Pronoun circling task after which they
completed the Ten Statement Task (Mandel 2003, Brewer and Gardener 1996). Two independent
judges coded the responses on the Ten Statement Task as idiocentric (personal qualities, beliefs
or behaviors that do not relate to others like, “I am athletic”) group (membership in demographic
groups or categories such as “I am 19”) or allocentric (relationships or sensitivity to others such
as “I am helpful to others”). For the manipulations to be successful individuals in the
independent prime condition should have a greater percentage of idiocentric response compared
to the interdependent prime condition.

In the first block of five self related statements, 52% of the responses were idiocentric for
those who received the interdependent primes while 89% were idiocentric for those who
received the independent primes (χ (1) = 4.45, p < 0.05). In the second block of the five self
related statements the 60% were idiocentric for the interdependence prime while 95% were
idiocentric for the independent prime. Thus the manipulations that we are going to use in our
study successfully manipulated the self construal, the independent self and the interdependent self.

**Design and Procedure**

One hundred and sixty nine students participated in a 2 (self construal: independent vs. interdependent) × 2 (nature of extension: prototype vs. flagship product based) between subjects factorial design. Following past research (Ahluwalia 2008) subjects were told that they will participate in a series of unrelated studies.

The first part of the study contained the two priming manipulations, for priming the independent and the interdependent self construal. In the second part of the study participants were asked to evaluate a new product (the fictitious extension) from Johnson and Johnson. The participants also responded to a series of questions measuring their attitude towards the brand, the flagship product and the believability of the new extension. Finally, in the last part of the study the subjects were quizzed about the purpose of the study and debriefed.

**Independent and dependent variables**

**Self- Construal**

The self construal of the subject was primed by using the Sumerian warrior story (Mandel 2003, Ahluwalia 2008, Gardener et al. 2001, Trafimow et al. 1997) and the pronoun circling task (Brewer and Gardner 1996; Ahluwalia 2008). These are the most successful priming techniques (Oyserman & Lee 2008, p. 322), used for manipulating the two styles of thinking, the holistic style and the analytical style (the basis of all our hypotheses).

**Brand extension**

Based on the results of the pretest 2, Johnson & Johnson fabric softener and Johnson & Johnson hair color were used as the two brand extensions in our study.

**Dependent Variables**

Participants were asked to rate the new products from Johnson & Johnson on a three item seven point scale, unfavorable/favorable, bad/good, dislike/like. Participants were also asked to rate the believability of the new products on a seven point scale (not believable/believable). This was done out to rule out the believability of the extensions as a plausible reason for explaining the pattern of results so obtained. A measure of attitude towards the brand and the flagship product were also included at the end of the study. Attitude towards the brand, attitude towards the flagship product and the believability of the new extension were treated as covariates in all the analyses (although, evaluation of the brand and the flagship product did not yield any significant difference in pretest 3, but still these were included as covariate to take into account any changes in favorability after the priming manipulation).

**Results**

A 2(self construal) × 2(extension type) ANOVA yielded a significant main effect of extension type \( (F(1,168) = 19.61, p < 0.00) \) and a significant two way interaction of extension type and self construal\( (F(1,168)=14.05, p<0.00) \). Attitude towards the brand and the believability of the new products were the only two significant covariates and were thus included in our analyses. Planned contrasts supported the hypotheses, specifically, the independents liked the Johnson and Johnson fabric softener more than the Johnson and Johnson hair color.
Fabric Softener = 5.09 (0.88) versus M Independent Hair color = 3.73 (0.96), t (1,168) = 6.8, p<0.00) and
the independents liked the fabric softener extension more than that of the interdependents (M
Independent Fabric Softener = 5.09 (0.88) versus M Interdependent Fabric Softener = 4.44 (1.08), t (1,168) = 3.25,
p < 0.00). Moreover, the interdependents liked the hair color extension more than the
independents (M Interdependent Hair Color = 4.37 (1.08) versus M Independent Hair color = 3.73 (0.96), t
(1,168) = 3.5, p < 0.00) but there was no significant difference between favorability of the
fabric softener and the hair color extensions for the interdependents (M Interdependent Fabric Softener =
4.44 (1.08) versus M Interdependent Hair color = 4.37 (1.08), t (1,168) = 0.35, p > 0.10), thereby not
supporting hypothesis 2b. Thus the results of the first experiment show that all the hypotheses
are supported in general except for hypothesis 2b.

*Figure 1 Impact of self construal in extension evaluation*
Discussion

“Culture may be conceptualized as a chronic activation of different self views”, (Ng and Houston 2006). Individuals belonging to North America have their independent self view highly accessible as this self view is activated more often in their daily life, while individuals belonging to East Asia have their interdependent self highly accessible as this is activated more often in their daily life. This chronic activation of different self views lead to the differences in the way an individual processes marketing stimuli (e.g., Aaker and Maheswaran 1997; Mandel 2003; Tavassoli 1999). Recent cross cultural research has focused on the evaluation of one such marketing stimuli, brand extension (Ng and Houston 2006; Monga and John 2007; Ng forthcoming). The first study contributes to this growing body of research by identifying an accessibility based explanation of brand extension evaluation.

The results of the study shows that individuals with different self construal evaluate an extension based on the most accessible association in the memory, with independents liking an extension based on the overall belief of the brand while interdependents liking an extension based on the flagship product of the brand.

We also found that both the flagship product based and the prototype based extensions are equally liked by the interdependents. The plausible explanation of this finding is based on Ng and Houston’s (2006) conclusion that for interdependents belief is indirectly associated with a brand via a product. They showed that if Volkswagen has a belief stylish, then for the interdependents this belief is not directly attached to the brand but is indirectly attached to the brand via Beetle. In other words Volkswagen will be considered stylish by the interdependents, if Beetle is considered to be stylish. For a very well established brand like Johnson & Johnson it seems plausible that the overall belief of Johnson & Johnson being soft is very closely attached with the flagship product shampoo, and there may be no difference in this accessibility and that of the flagship product. Thus extensions based on either the overall brand belief and the flagship product is equally evaluated by the interdependents.

The challenge lies in replicating the accessibility based explanation of the brand extension evaluations in different contexts. Brand extension failure and its negative impact on the parent brand provide one such context. If individuals with different self construal have differential accessibility of the various brand associations then it is likely that the extension failure is going to impact that association which is most accessible for an individual with a particular self construal. For example, independents have the abstract beliefs as the most accessible association and therefore it is likely that on failure of an extension the most accessible belief associated with a brand will be diluted. Previous research in brand extension failure has investigated the effect on accessibility on the parent brand (Ahluwalia and Canli 2000), however the impact of accessibility was not based on an individual difference factor as is our case (accessibility was operationalized as the evaluation of the brand immediately after being exposed to extension news). The second study investigates the impact of accessibility in the dilution context and we study this in the context of a multi product brand. We replicate the findings of the second study in our third study which studies the impact of extension success at the two levels of the brand the flagship product level and the brand level. If our accessibility based explanation of extension evaluation holds true then both the dilution effect of extension failure and the enhancement effect of extension success can be based on the differential accessibility of different brand associations across cultures.
STUDY 2: RECIPROCAL EFFECT OF EXTENSION FAILURE

Reciprocal effect means the impact of extension failure in the evaluation of the brand (Lane and Jacobson 1997). Previous research in extension failure has studied the reciprocal effect only at the brand level (John et al. 1998 being an exception). John et al. (1998) showed that the flagship product level is less vulnerable to dilution compared with the brand level. The purpose of this study is to see whether the negative impact of extension failure across the two levels of the brand is moderated by the differential accessibility of the various brand associations across individuals with different self construal. More specifically, is the flagship product level always subjected to less dilution than the brand level?

Design and Procedure

One hundred and twelve students participated in a 2 (self construal: independent vs. interdependent) × 2 (nature of extension failure: prototype vs. flagship product based) × 2 (evaluation measured at two different levels: the brand level and the flagship product level) between subjects factorial design. By brand level we mean the evaluation of the Johnson & Johnson brand on failure of an extension and by flagship product level we mean the evaluation of the Johnson & Johnson shampoo on failure of an extension. Subjects were told that they will participate in a series of unrelated studies.

The first part of the study contained the two priming manipulations which were used in the first study. In the second part of the study the subjects were shown two fictitious news articles from the The New York Times and The Wall Street Journal. The news articles talked about the failure of the extensions. The news articles described that the new products from the Johnson & Johnson brand were inferior to the competing brands and a very high percentage (the majority) of the consumers were not satisfied with the new products. The news articles also mentioned that the new products have to withdrawn from the market due to their poor performance. It may be noted here that we do not used the failure of any specific attribute as a reason of failure of the new products, as this is going to introduce a confound in the study. Attributes are generally abstract concepts and therefore failure on some particular attribute may lead to an alternative explanation for the results so obtained.

After the participants read the news articles they were asked to evaluate either the Johnson and Johnson brand or the Johnson and Johnson shampoo. While measuring evaluation of the brand the participants were asked, “What is your evaluation of the Johnson and Johnson brand in general?” but when we measured the evaluation of the flagship product (shampoo) then the subjects were asked “What is your evaluation of the Johnson and Johnson shampoo in particular?” The reason for using “general” and “particular” are as follows: If individuals with interdependent self construal are asked about a brand then they are going to form the evaluation of the brand based on the most accessible exemplar of the brand and thus we will not get the real evaluation of the brand. The word “general” was used to focus the attention of the interdependents on the brand but not on a specific exemplar. Similarly, if independents are asked about shampoo then their evaluation may be dependent on the general evaluation of the brand. Thus the word “particular” was used to focus their attention on the shampoo rather than the brand in general. We followed the suggestions of Ng and Houston (2006) in incorporating these changes.
The participants were then asked to rate the believability of the news articles as also the persuasiveness of the news articles. Then they rated their involvement in the product categories to which the new products belonged and also rated the believability of the new product. Finally the subjects were asked about the purpose of the study and debriefed.

**Independent and Dependent Variables**

The independent variables were same as the first study while the dependent variable is evaluation, which is measured at the two levels of the brand, the brand level and the flagship product level.

**Table 1**

*Attitude at the brand and the flagship product level after the failure of the extensions in Study2*

<table>
<thead>
<tr>
<th>Self Construal/Type of Extension Failure</th>
<th>A Brand Level</th>
<th>A Flagship Product Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Prototype</td>
<td>3.35 (0.17) **</td>
<td>4.91 (0.32)</td>
</tr>
<tr>
<td>Independent Exemplar</td>
<td>4.71 (0.43)</td>
<td>4.25 (0.61)</td>
</tr>
<tr>
<td>Interdependent Prototype</td>
<td>4.31 (0.42)</td>
<td>4.47 (0.41)</td>
</tr>
<tr>
<td>Interdependent Exemplar</td>
<td>4.72 (0.24)</td>
<td>2.29 (0.43) **</td>
</tr>
<tr>
<td>Control</td>
<td>5.22 (0.24)</td>
<td>5.13 (0.19)</td>
</tr>
</tbody>
</table>

**p < 0.01**

**Results**

There was no difference in the believability and persuasiveness of the news articles across self construal (all Fs’ < 1). Similarly, there were no significant differences in the involvement of the product categories and the believability of the new product across different self construal (all Fs’ < 1). Therefore, these factors are unlikely to contribute to the obtained set of results, ruling out these factors as the plausible reasons of explanation of the obtained set of results.

The negative impact of extension failure at the brand level was analyzed by comparing the evaluation of the brand in the experimental condition to the evaluation of the brand in the control condition. Two controls were used to study the dilution effect. The evaluation of the Johnson & Johnson brand from pretest 3 was use as a control to study dilution at the brand level while the evaluation of Johnson & Johnson shampoo from the same pretest formed the control for studying dilution of flagship product. The hypotheses were tested by contrasting the experimental groups with the control groups by using Dennett’s t test (Kirk 1982). The residual error term from the one way ANOVA was used for planned contrast.
Evaluation of the Johnson and Johnson brand

Dilution at the brand level \((M_{\text{Control}} = 5.22 (0.24), M_{\text{Brand Evaluation Independent}} = 3.35 (0.17), t(0.025, 5, 60) = 3.97, p < 0.00)\) occurred only for the independent (thus replicating the previous study by John et al. 1998). Interestingly this dilution resulted from the failure of fabric softener but not from the failure of the hair color extension. For the interdependents there was no dilution at the brand level for either the fabric softener \((M_{\text{Control}} = 5.22 (0.24) \) versus \(M_{\text{Brand Evaluation Interdependent}} = 4.31 (0.42))\), or the hair color \((M_{\text{Control}} = 5.22 (0.24) \) versus \(M_{\text{Brand Evaluation Interdependent}} = 4.72(0.24))\) failure. Thus the results support hypothesis 3a.

Evaluation of the Johnson and Johnson shampoo

Dilution at the flagship product level \((M_{\text{Control}} = 5.13 (0.19), M_{\text{Shampoo Evaluation Interdependent}} = 2.29 (0.43), t(0.025, 5, 38) = 5.46, p < 0.00)\) occurred only for the interdependents, resulting from the failure of the hair color extension but not from the failure of the fabric softener extension. For independents there was no dilution at the flagship product level for either the fabric softener \((M_{\text{Control}} = 5.13 (0.19) \) versus \(M_{\text{Shampoo Evaluation Independent}} = 4.91(0.32))\) or the hair color failure \((M_{\text{Control}} = 5.13 (0.19) \) versus \(M_{\text{Shampoo Evaluation Independent}} = 4.25(0.61))\). Thus the results support hypothesis 3b.

Discussion

Our findings demonstrate that the flagship product is not always protected from the negative impact of extension failure. The negative impact of dilution will depend on which of the two associations, the brand level association or the product level association, is more accessible. Thus providing for the first time an accessibility based explanation of dilution effect.

Individuals with independent self construal have the brand level association as the most accessible association and thus the negative impact of extension failure impacts only the brand level for the independents. While just the opposite is true for individuals with interdependent self construal and thus the negative impact of extension failure impacts only the product level for the interdependents.

The accessibility based explanation of the dilution effect is further substantiated by the impact of the two different types of extension. Since the prototype of the brand is the most accessible association for the independents thus only a prototype based extension failure impacts the brand level for the independents, not the exemplar based extension. Just the reverse is true for the interdependents and thus dilution occurs at the product level only from the failure of the exemplar based extension but not form the failure of a prototype based extension.

STUDY 3: ENHANCEMENT EFFECT OF EXTENSION SUCCESS

The purpose of the third study is to see whether the accessibility based explanation of brand extension evaluation and negative impact of extension failure holds true for a successful extension. Thus, this study gives us another context to see the effect of the accessibility of different brand associations in evaluations of marketing stimuli (brand extension in our case).

Design and Procedure

Ninety one students participated in a 2 (self construal: independent vs. interdependent) \(\times\) 2 (nature of extension success: prototype vs. flagship product based) \(\times\) 2(evaluation measured at two different levels: the brand level and the flagship product level) between subjects factorial
design. Everything is similar to the second study except for the extension news, which was success in this case. As in the case of extension failure the success of the extension was mentioned in general terms as including any specific reason for success may introduce a confound in the experiment.

Results

As in the study 2 there was no difference in the believability and persuasiveness of the news articles across self construal (all Fs’ < 1). Similarly, there were no significant differences in the involvement of the product categories and the believability of the new product across different self construal (all Fs’ < 1). Therefore, these factors are unlikely to be the alternative explanations for the obtained set of results.

Evaluation of the Johnson and Johnson brand

As in the second study the brand enhancement effect was obtained by contrasting the experimental groups with the control group. Enhancement or the positive impact of the extension success, at the brand level occurred only for the independents. Interestingly, the enhancement resulted from success of both the fabric softener (M Control = 5.22 (0.24), M Evaluation Brand = 6.24, t (0.025, 5, 55) = 3.18, p < 0.00) and the hair color (M Control = 5.22 (0.24), M Evaluation Brand = 6.42, t (0.025, 5, 55) = 3.24, p < 0.00). Thus the results partially support hypothesis 4a.

Evaluation of the Johnson and Johnson shampoo

Enhancement at the flagship product level (M Control = 5.13 (0.19), M Evaluation Shampoo = 6.10, t (0.025, 5, 50) = 2.36, p < 0.00) occurred only for the interdependents, resulting form the success of the hair color extension but not form the success of the fabric softener extension (M Control = 5.13 (0.19) versus M Evaluation Shampoo = 5.79 (0.29)). For the independents there was no enhancement at the flagship product level for either the fabric softener (M Control = 5.13 (0.19) versus M Evaluation Shampoo = 4.86 (0.36)) or for the hair color success (M Control = 5.13 (0.19) versus M Evaluation Shampoo = 5.33 (0.39)). Thus the results support hypothesis 3b.

Table 2 Attitude at the brand and the flagship product level after the success of the extensions in Study3

<table>
<thead>
<tr>
<th>Self Construal/ Type of Extension Failure</th>
<th>A Brand Level</th>
<th>A Flagship Product Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Prototype</td>
<td>6.24 (0.13)**</td>
<td>4.86 (0.36)</td>
</tr>
<tr>
<td>Independent Exemplar</td>
<td>6.42 (0.21)**</td>
<td>5.33 (0.39)</td>
</tr>
<tr>
<td>Interdependent Prototype</td>
<td>5.89 (0.41)</td>
<td>5.79 (0.29)</td>
</tr>
<tr>
<td>Interdependent Exemplar</td>
<td>5.66 (0.23)</td>
<td>6.10 (0.15)**</td>
</tr>
<tr>
<td>Control</td>
<td>5.22 (0.24)**</td>
<td>5.13 (0.19)</td>
</tr>
</tbody>
</table>

p < 0.01
Discussion

Results of the third study further establishes the fact that differential accessibility of the brand associations, lead to differential effects at the two levels of the brand. The enhancement effect impacted the brand level for the independents, while it impacted only the flagship product level for the interdependents.

It is seen that the success of the hair color extension has a positive impact on the evaluation of the brand for the independents. If the accessibility explanation is taken into consideration then the success of hair color extension should not have impacted the brand level for the independents, as hair color is an exemplar based extension and the most accessible association for the independents is the prototype of the brand. However, this result is not inconsistent with previous research (Loken et al. 2002; Ng and Houston 2006). Ng and Houston (2006) have shown that the attitude towards a brand for the interdependents depends largely on the multiattribute index (the beliefs associated with the brand) and the multiexemplar index (the various products associated with the brand, shampoo for example in case of Johnson & Johnson) of the brand. More specifically existing products of the brand also contributes to the evaluation of the brand. The hair color extension is based on the most accessible exemplar of Johnson & Johnson, shampoo. Thereby, the success of the hair color extension has a positive impact at the brand level for the independents.

GENERAL DISCUSSION

Socializations in two different cultures leads to the activation of different self construal, with the independent self construal chronically activated in the North Americans while the interdependent self construal chronically more prevalent in the East Asians (Markus and Kitayama 1991, Triandis 1989, Ng and Houston 2006). The present article investigates the effect of this chronic activation of the different self construal in the brand extension context, more specifically in the context of multi product brand. This research contributes to the brand extension literature in the following ways:

Self construal and the nature of extension

Mao and Krishnan (2006) investigated evaluations of brand extensions in the context of a multiproduct brand, proposing a two dimensional fit construct. Fit with either the prototype or the exemplar of the brand is required for the extension to be successful. In our present research we investigated the accessibility of these two dimensional fit construct across cultures and the resulting impact in the evaluation of the extension. Results of our study shows that the likability of an extension will be dependent on the accessibility of that construct in the brand knowledge structure of the consumer. Thus, the results of the study corroborate the fact that consumers use the most accessible information from memory to categorize new marketing stimuli (Ng and Houston 2006). Moreover, the results of the first study also establish the fact that the accessible construct is not only used for the purpose of categorization but also impacts the favorability of the brand extension. Research in social psychology has seen that individuals use the most accessible construct form memory in forming an impression about a person unless they are motivated to process information systematically (Feldman and Lynch 1988; Higgins, King, and Mavin 1982). Our research extends the findings of social psychology in a marketing context.

The finding is going to be useful in deciding on the nature of extension of a multi product brand, in two different parts of the world – North America and East Asia. Specifically, if a
company decides to launch an extension of a multi product brand in North America then it will fair well if it launches an extension based on the most accessible attribute of the brand while it needs to an extension based on the most accessible exemplar, if one needs to launch an extension in East Asia.

**Independent Self Construal and Categorization**

Previous research has shown that individuals with independent self construal categorize a marketing stimuli either attributionally or taxonomically (Ng and Houston 2006). In case of a multiproduct brand various product categories are associated with the brand and therefore the taxonomy of the brand in a multi product brand context is not well defined. Results of the first study shows that in such a context individuals with independent self construal use the attribution associated with the brand for categorizing an extension. This is because the independents abstract information from the various product categories associated with a multi product brand and stores it as the most accessible attribute. In case of Johnson & Johnson the attribute which was abstracted and stored as the most accessible attribute is soft and therefore this attribute is used for categorizing a new extension form the Johnson & Johnson. Thus, our study provides a context to study whether independents use taxonomy or attribution to confer favorability towards an extension.

**Self construal and the flagship product**

Previous research has shown that the flagship product is least vulnerable to dilution (John et al. 1993): failed extension impact the evaluation of a brand but the flagship product is not vulnerable to this effect of dilution (unless the brand extension is a line extension). However, our study provides a context (multi product brand) and an individual difference factor which changes the view of the dilution of the flagship product. Study 2 shows that the flagship product is not always protected from the effect of dilution but this dilution is moderated by the nature of self construal one has. Flagships products are more susceptible to the effects of dilution in case of the interdependents. Again, the basis of this differential impact of dilution at the two levels of the brand is the accessibility of the different types of association, thereby going beyond the strength of association as an explanation of the negative impact of extension failure (John et al. 1998). Previous research in the brand extension literature has investigated the nature of fit (moderate fit) on the effect of dilution (Loken and John 1993; John et al. 1998; Ahluwalia forthcoming). This research goes beyond the nature of fit (as defined by the extensions similarity to the brand) and identifies the nature of extension as a moderator of the negative impact of extension failure across individuals having different self construal. John et al. (1998) first identified the issue of dilution affecting both the brand and the flagship product levels. Our study contributes further to this research stream by indentifying self construal as the moderator of this dilution effect.

**Self construal and extension success**

The final study further establishes the accessibility based explanation of brand extension evaluation and failure by investigating it in the context of extension success. As is seen in the study that the two levels of the brand are differentially impacted by the success of an extension and this is moderated by the nature of the extension and the self construal that an individual possess.
LIMITATIONS AND FUTURE RESEARCH

The present research has several limitations that may be addressed by future research. For the interdependent both the prototype and the exemplar based extensions were equally favorable. Is this a brand specific factor (Johnson & Johnson being a very well established brand) needs to be investigated in future studies involving a different brand. The dilution measured in the present study did not pertain to any specific belief of the brand but a general evaluation of the brand. Future studies may look into the specific belief to see whether the belief (associated with a brand and flagship product) is subjected to different dilution effect at the two levels of the brand for individuals with different self construal.
REFERENCES


TO THE DETRIMENT OF ALL:
ANCHORING IN CONSUMER SOCIAL DILEMMA DECISIONS

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ABSTRACT

In today’s culture, with advertising clutter everywhere, consumers’ purchase decisions are often made in a subtle context of which they are often not aware. This cultural context sets an anchor which consumers use in making purchases. This paper seeks to examine this subtle anchoring as context in purchasing decisions, specifically in the realm of social dilemmas. The author proposes that luxury anchoring will influence the consumers’ purchasing decisions into a higher or more luxurious sphere than would be chosen if not anchored. Multiple moderators are explored and the influence of mood is also investigated.

INTRODUCTION

Multiple anecdotes abound about the importance of context. Take, for instance, Figure One. In this diagram, it appears that the orange dot is larger when surrounded by smaller blue dots than when surrounded by larger blue dots. In fact, the orange dot is the same size in both illustrations. The orange dot appears bigger based on its context. So how does this idea of spatial context carry over into consumer behavior? In every consumption decision, the context in which the decision is being made affects the consumer’s choice. For instance, living in Eugene, OR, a notoriously green-living community, when a person purchases a car, the matter of environmental concern may weigh heavier than for a person living in Montana. A living room furniture set purchased for an average-sized 16’ x 16’ living room in America would seem much too big for an average-sized living room of 8’ x 9’ in Japan.

Figure 1: Context Illustration

While looking through a copy of InStyle magazine, I noticed that expensive luxury products are modeled and shown and the prices given often times right next to a similar, less expensive product. Patent blue 4-inch heal sandals priced for $109 seem outrageous, when compared to similar $620 Manolo Blahniks it seems rather reasonable in that context if one is in the market for such foot attire.

The prevailing consumer culture, supported by the advertising and fashion industries, establish a subtle context against which individual purchase decisions are framed. In effect, the cultural climate sets an anchor to which people adjust their expectations when making purchase decisions. This process is very subtle and most people aren’t even aware of its influence. The
purpose of this paper is to examine such anchoring as context in consumer social dilemma decisions. Social dilemmas are defined as situations where individual interests differ from collective ones (van Lange et al. 1992) and will be explained in more detail further in this paper.

ANCHORING AND ADJUSTMENT

Conceptualized in 1974 by Tversky and Kahneman, anchoring is the tendency for people to rely too heavily on one piece of information when making a decision. They showed that the information with which an individual starts tends to influence the subsequent adjustment process making the final judgment close to the original information (the anchor). In one of their first studies, the authors had subjects guess the percentage of African countries which are members in the United Nations. A wheel numbered from 0 to 100 was spun to determine the anchor quantity in the subjects’ presence and they were asked to: (1) indicate whether the number on the wheel was higher or lower than the number of countries, and (2) estimate the number of African countries in the UN by moving up or down from the wheel’s number. The results showed that for subjects that received 10 as an anchor, the median estimate percentage was 25% and for those who received 65, the median was 45%. The authors also showed that people anchor not just on a given number but also on the estimate of an incomplete computation.

Anchoring has also been shown in self-generated information studies, where participants are asked to answer a question to which they do not know the answer (i.e., “When was George Washington elected president?”). They then generate their own anchor which they identify as wrong (“The Declaration of Independence was signed in 1776.”), but is close to the correct answer (Epley & Gilovich 2004).

Studies have abounded that examine anchoring and adjustment in judgment models including estimating numerical answers (Tversky & Kahneman 1974), risk assessment (Lichenstein et al. 1978), predictions of sales (Hogarth 1980), spousal judgments (Davis et al. 1986), product bundle evaluations (Yadav 1994), purchase quantity decisions (Wansink et al. 1998), redesign activities (Dixon & Colton 1998), consumers’ willingness-to-pay and willingness-to-accept (Simonson & Drolet 2004), attitude generations and recruitment (Cohen and Reed II 2006), and consumer evaluation of sale prices (Chandrashekaran & Grewal 2006).

Most research has focused on numerical anchoring, where the respondent uses a number at which they then anchor. Few studies have used non-numerical ideas as anchors (see Davis et al. 1986 for an exception), though the concept of non-numerical anchoring has been used colloquially (i.e., Thaler & Sunstein 2008). The goal of the present study is to investigate how anchoring and adjustment affects consumer decisions in a social dilemma situation and the tradeoffs people make in making the decision. To have respondents anchor, the researcher plans to show clips from movies that show luxury or high-end products to one-half of the participants (luxury anchoring) and clips that show no or low luxury products to the other half of respondents (non-luxury anchoring). The goal is to mimic the subtle anchoring that pervades American culture. I propose that with luxury anchoring, participants will overestimate the percent of the public that owns specific name-brand luxury goods in comparison to the people viewing non-luxury anchoring movie clips.

Proposition 1: With luxury (non-luxury) anchoring, people will overestimate (underestimate) percent of people who own high-end goods.
SOCIAL DILEMMAS

As aforementioned, anchoring occurs in purchasing, viewing magazines and numerous other consumer activities. Often times in life, people are faced with a paradox decision: do I choose what is best for me and not good for everyone, or what is good for all? For example, imagine you are at a concert. This is the concert you have been waiting for – a reunion tour 30 years in the making. For me, it would be a Led Zeppelin reunion. You buy your tickets at an exorbitant price, but they are worth every penny. An array of memories abound. This is the concert of a lifetime. You get to the arena and have great seats – only 10 rows back. The concert begins and you sit on the edge of your seat. All around you people are dancing in their chairs. Then the guy in front of you stands up to better view the concert, blocking your (and others’) view. By standing up, the man has taken the option that is best for him (giving himself the best view), but is bad for others (yourself included). Once he stands up, others follow suit and soon everyone is standing, no longer providing anyone a better view than if they were sitting.

An analogous problem is in housing and other purchase decisions. Evidence indicates that all would be happier if everyone bought smaller cars and houses and spent the savings on other less conspicuous consumption (Frank 1999). However, in the last two decades housing sizes have risen from a median size of 1600 square feet in 1980 to 2100 square feet in 2001 and housing prices have risen dramatically (U.S. Bureau of the Census 2003). Consumers are purchasing what is best for themselves individually, but what is detrimental to themselves when all choose the same path. The problem is that only the individual can control what s/he spends and not the spending of others, so the cycle continues.

This paradox can also be classified as a social dilemma. Formally, a social dilemma is defined by having two simple characteristics: (1) “each individual receives a higher payoff for a socially defecting choice than for a socially cooperative choice, no matter what the other individuals in the society do, but (2) all individuals are better off if all cooperate than if all defect” (Dawes 1980, pg. 324). Put simply, social dilemmas are situations in which an individual must choose between maximizing his/her own self interest or that of the group. It is, in essence, whether to choose selfishly or cooperatively.

Social dilemma research grew out of game theory which was largely introduced by Luce and Raiffa (1957). This work became the foundation of experimental games which are used to predict the accuracy of the formal theory of games. Experimental games provided a method for scholars to evaluate human behavior in situation of social interdependence. A commonly used example is the Prisoner’s Dilemma Game, introduced by Luce and Raiffa (1957) which nowadays people see all the time used in popular network dramas like Law & Order. In a Prisoner’s Dilemma, two suspects are arrested by the police and separated. Both are given options to either confess (betray their partner) or stay silent (cooperate). If both confess, both will receive a 5-year prison term. If both stay silent, both will receive a 1-month sentence. However, if one defects, the suspect will go free for confessing and the other will serve a 10-year prison term.

It’s obvious that societal problems that fit into the realm of social dilemmas involve more than two people, so researchers have adapted experimental game to fit. Van Lange et al. (1992) sum up the advantages of experimental games. First, the games give the researcher the capability of manipulating the dependency of the players on one another in straightforward and accurate
ways but changing the payoffs. Second, researchers can easily manipulate other factors such as the characteristics of the other players that may influence people’s decision making. Third, the games provide understandable operationalization of unclear ideas like cooperation and competition.

Social dilemmas have been widely researched in psychology, but in a consumer perspective, have only been investigated in terms of consumer boycotts (Sen et al 2001). The researchers categorized consumer boycotts as a social dilemma and examined the individual boycott decision and the determinants of consumers’ decision to withhold consumption.

One can see a variety of consumer behavior applications: luxury goods, environmental purchasing, energy use, etc. Many decisions made by consumers benefit them individually, but do not society as a whole. Of interest here are the tradeoffs people make in social dilemma decisions with luxury versus non-luxury anchoring serving as context. For instance, would a person prefer a 2,000 sq. ft. house 5 minutes from work or a 3,000 sq. ft. house 1 hour from work? And how does luxury anchoring affect their decision? As Frank (2007) illustrates, smaller abodes with less commute generally make people happier (Koslowsky et al. 1995), but the desire to compete with conspicuous goods is ever present. I propose that with luxury anchoring, people will choose greater attributes (a larger house, a faster car) in a social dilemma decision (i.e., future environmental consequences, the fall of the housing market) than their non-luxury counterparts. One of the key suppositions of this paper is that anchoring as a context greatly influences people’s choices in social dilemma decisions.

To try to receive truthful responses from people that would not be influenced by what they feel is “right,” content analysis will be used to determine people’s tradeoff in making these decisions. In each decision, respondents will receive information on traits regarding a product (i.e., for an apartment: square footage, distance to work, amenities) and will be asked to rank specific attributes about each trait, ranging from low-level (i.e., laminate countertops) to high-level (i.e., granite countertops). I propose that with luxury anchoring, people will rank the nicer, higher-end attributes higher.

**Proposition 2:** With luxury (non-luxury) anchoring, people will rank greater attributes higher (lower) in a social dilemma decision.

**PUBLIC VERSUS PRIVATE GOODS, OTHERS’ CHOICE, AND PERCEIVED EFFICACY**

A variety of moderators would be present in any consumer decision. One of the ideas regarding context indicated by Frank (2007) is the idea of positional versus non-positional goods. Positional goods are those in which context is an essential deciding factor, making non-positional those in which context is not essential. These goods align with conspicuous and non-conspicuous consumption, or the purchase of goods for the purpose of displaying income. Observability is a key factor in both positional and conspicuous goods. Frank writes, “Categories of consumption that are not readily observed should thus be relatively less positional. But observability is a necessary, not sufficient condition for positionality” (2007, pg. 68). It is well-established in literature that lower-income households, in comparison to high-income households, spend a higher percentage of income on conspicuous and inconspicuous goods in the hopes of gaining social status (Bagwell & Bernham 1996; Banerjee & Duflo 2007; Moav & Neeman 2008). In
order to keep up with others in society, people spend money on conspicuous consumption, purchasing easily observable goods to display their wealth. In a social dilemma decision then, people would be more likely to purchase a highly observable positional good whether they have been anchored with luxury or not. In terms of consumers’ social dilemma decisions, this research predicts that the positionality of a good will moderate the consumers’ choice.

**Proposition 3a:** The positionality of a good will moderate the consumer’s attribute choices in a social dilemma decision with anchoring.

For example, consumers are more likely to choose the individualistic option for a positional good than for a non-positional good even with luxury or non-luxury anchoring because of the inherent observability of the good. So no matter if consumers are luxury or non-luxury anchored, if the choice is about a positional product, they are more likely to maximize their own interest rather than the groups in comparison to non-positional goods.

Sen et al.’s work on boycotts (2001) leads to other interesting moderators for consumer social dilemma decisions. First, Sen et al. examined participants’ expectation of overall participation and their cooperation and found that there is a positive link between people’s expectation of overall participation and that the link was strongest for those more susceptible to normative influences. The idea of expectation of participation is how many others a person expects to participate in the cooperative choice. If a person expects a high number of others to participate, s/he is more likely to cooperate as well. The idea of expectation of participation is applicable in this research as well. Social dilemma theory suggests a positive association between people’s expectation of participation and an individual’s cooperation in maximizing what is best for the group (Klandermans 1992). So in a social dilemma, people are more likely to cooperate when widespread cooperation by others provides a solution to the social problem. Therefore, people’s participation in the cooperative choice instead of the individualistic one will vary positively with the overall cooperation of others. However, reference group theory suggests that this is based on normative influences (Fisher & Ackerman 1998). Normative influence is how other people influence someone to conform in order to be liked and accepted by the group (Aronson et al. 2005). Consumers who are more (vs. less) susceptible to normative influences (to be assessed using Bearden et al. 1989 scale) will increase to a greater extent with increases in others’ overall cooperation.

**Proposition 3b:** Consumers are more likely to choose the individualistic (cooperation) option if they expect low (high) participation from others even with luxury or non-luxury anchoring, especially for those people who are more prone to normative social influences.

The second idea explored by Sen et al. that can be applied is the idea of perceived self-efficacy and its influence on overall expectation of participation. The authors correctly predicted that the positive effect of participation expectation would be stronger when perceived efficacy was high than when it was low. This too can be applied to this research. Social dilemma theory suggests that cooperation varies based on the extent one believes that participation will contribute significantly to the goal, or one’s perceived efficacy (van Lange 1992). So if one believes that participation will significantly contribute to the success of the cooperative goal, one is more likely to participate in the pursuit of that goal.
Proposition 3c: Consumers will be more likely to choose the cooperative (individualistic) option if they have high (low) perceived self-efficacy despite with luxury or non-luxury anchoring.

In other words, with luxury or non-luxury anchoring, if a person believes that their participation will greatly contribute to the success of the cooperative goal, they will be more likely to choose attributes more in line with that goal.

Sen et al.’s idea regarding perceived self-efficacy looked at its influence on participation expectation. As previously mentioned, they predicted that the positive influence of overall expectation of participation would be greater when perceived efficacy was low than if it was high. To apply this idea to this study, the author proposes that a person’s expectation of participation will influence consumers’ choice in a social dilemma, but that that expectation is influenced by the person’s perceived efficacy.

Proposition 3d: Expectation of overall participation will moderate the consumer’s attribute choices in a social dilemma decision with anchoring, especially for those more susceptible to normative influences, but only when perceived efficacy is high.

To put it another way, with low expectation of participation, the prediction is that consumers will choose the individualistic option (despite their anchoring), however, this will change to the cooperative option when that person believes that their participation will contribute significantly to the cooperative goal.

MOOD MANIPULATIONS

Mood has been shown to be an important determinant in judgment and responses (Schwarz & Clore 1983, 1996), yet little has been done in the realm of social dilemmas regarding mood. Existing research has looked at oppositely valenced mood sets (i.e., Hertel & Fiedler 1993). Good moods have been found to increase cooperation, whereas bad moods enhance competitive behavior (Carnevale & Isen 1986; Knapp & Clark 1991). More recently, Sanna et al. (2003) found that goal orientation interacts with mood to create an opposite effect in cooperative goal orientation. Specifically, they found that bad moods led to greater competition when competition goals were primed. In contrast, bad moods led to increased cooperation when cooperative goals were primed.

Research on negative mood effects in resource dilemma decisions (using resource depletion) by Knapp and Clark (1991) found that sad and angry participants used more resources (were more competitive) than neutral and happy participants. However, respondents were instructed to “maximize your own profits” (pg. 680), thus inducing competitive priming (Sanna et al. 2003). In a consumer social dilemma decision, goal priming would not be present in a typical decision. Consumers would be purchasing with their own goals and motivations and moods to influence their choices. No research has looked at the influence of moods in a social dilemma decision in the consumer realm, except perhaps in boycott behavior. As previously mentioned, Sen et al. (2001) conceptualized withholding consumption as a type of consumer social dilemma. Research on consumer motivations for participation in boycotts has typified anger as a key ingredient (Smith 1990; Friedman 1999; Klein, Smith et al. 2004). According to
Frijda (1986) and Lazarus (1991), anger is an emotion that entails action. Based on the work in boycott research that indicates anger is key to cooperation in withholding consumption, we propose that anger will lead to cooperative behavior.

Proposition 4a: With anger-inducing stimuli, consumers will be more likely to choose the cooperative attribute choices with either luxury or non-luxury anchoring.

Raghunathan & Pham (1999) have shown that different emotions from the same valence (i.e., two negative moods like sadness and anxiety) have distinct influences on the decision making process. They showed in three experiments that anxiety primes a goal of uncertainty reduction, leading to low-risk, low-reward decision and sadness primes a goal of reward replacement, leading to high-risk, high-reward option. In social dilemmas, the analogous low-risk, low-reward option would seem to be the individualistic, non-cooperative one as by making that decision, one gets an immediate reward that is less if everyone chooses that option, but has less risk than the cooperative option in which all need to participate for the reward. This leads to two additional propositions.

Proposition 4b: With anxiety-inducing stimuli, consumers will be more likely to choose the competitive attribute choices with either luxury or non-luxury anchoring.

Proposition 4c: With sadness-inducing stimuli, consumers will be more likely to choose the cooperative attribute choices with either luxury or non-luxury anchoring.

METHODOLOGY

Proposition 1 will be tested as a pretest using clips from movies. The luxury anchoring movie clip will show scenes from a movie that has luxury items in the background but are not integral to the scene. The non-luxury anchoring movie clip will show a similar scene with no luxury items. Participants in each condition will be asked to guess the percentage of the American population that own a specific high-end product (i.e., What percent of Americans own a Prada handbag?).

In Proposition 2 – 4, participants are asked to rank their preferences for specific attributes within traits of products (i.e., for an apartment: square footage, distance to work, amenities). To determine attribute rank and preference, conjoint analysis will be used to determine people’s tradeoff in making these decisions. For proposition 3a, there will be two additional conditions based on the positionality of a good. Proposition 3b will have two conditions – high and low levels of participation. In Proposition 3c, the respondent’s perceived efficacy will be manipulated. These three propositions will be analyzed with 2-way ANOVAs. Proposition 3d will be a 2x2x2 ANOVA, with high and low participation and high and low self-efficacy. For Proposition 4, moods will be induced and rankings will be taken to determine the effects of mood manipulations on participants’ decisions.
This research has implications for a variety of realms. First, in anchoring and adjustment, this research hopes to show that non-numerical information about luxury can be used to anchor people in decision making. In today’s world, consumers are influenced by factors of which they are unaware. People are bombarded daily with visuals showing high-end luxury goods, and this background noise subliminally provides a context in which individual purchases are made. Research has shown that people are spending a higher percentage of their money on goods that are more positional and that this spending is not making anybody happier. By anchoring on the idea of luxury rather than a quantitative price, this research is trying to indicate that even background information that shows luxury items influences decisions that consumers make by making up the context in which consumers make purchases.

Second, this research has implications for social dilemma research. This research extends social dilemmas to the consumer behavior realm and looks at social dilemmas using conjoint analysis. Previous research has looked at some areas of context for social dilemma decisions, but the idea of anchoring as a context in a social dilemma has been overlooked. This research hopes to provide evidence of the importance pervasive luxury anchoring in social dilemma decisions faced by consumers. Also, social dilemma researcher have examined emotional influences on social dilemma decisions very sparingly. What research has been done has focused on general positive and negative affect. This research hopes to show that negative moods can influence social dilemma decisions in different ways.

Finally, there are consumer behavior implications from this research as well. Research on consumer decision-making processes has not investigated the role of anchoring in many decisions, let alone social dilemmas. Consumer decisions have not been looked at from the angle of social dilemmas outside of withholding consumption. As noted in this research, a variety of consumer decisions fall into what would be a social dilemma. For instance, look at housing decisions. Think where our market would be today if people had not financed houses that stretched their budget and banks had not given loans to those people. What would our current economic situation be if people had bought smaller houses more within their budget? By looking at antecedents, moderators, and anchoring, this research has shown many factors in consumer’s social dilemma decision making. The implications for this research are astounding. By beginning to look at consumer decisions in the realm of social dilemmas, researchers can examine how to get consumers to choose an option that would be less selfish and more cooperative therefore benefitting more people.
REFERENCES


