AN EMPIRICAL INVESTIGATION OF HOW PERCEIVED DEVALUATION AND INCOME EFFECTS INFLUENCE CONSUMERS' INTENDED UTILIZATION OF SAVINGS FROM COUPON REDEMPTION

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Coupons are one of the most popular and attractive tools of promotion. Redeeming coupons makes shoppers feel that they are doing something good for their family's budget, because coupons offer 'savings.' On the other hand, a coupon might have several negative effects on purchase behavior as well, which might 'devalue' the promoted product in the consumer's perception.

But a review of the literature shows a lack of attention afforded to the above-mentioned aspects of coupon redemption. In addition, the consumer's coupon redemption behavior is moderated by several factors drawn from research in the fields of market pricing, economics and psychology, each of which have contributed to the current study in their own way. Finally, there does not exist any substantive research as to why coupon redemption rates have been on the decline, despite an increase in distribution of coupons. Therefore, this research not only fills existing gaps in the literature but also enriches it by synthesizing views from different academic disciplines.

This dissertation concentrates on grocery products. Data is collected from about 2500 adults, primarily residing in the Dallas-Fort Worth area.

The conceptual framework is based on the theory of reasoned action, which suggests that an individual's beliefs influence his/her attitude towards the consequences

of actions, and attitudes, in turn, influence the individual's actions. Toward this end, the model incorporates intention to redeem coupons, intention to keep or spend savings and intention of how to spend savings from coupon redemption as the dependent variables, and several other independent variables.

Behavioral independent variables are measured using items borrowed from established scales, as well as those developed exclusively for the current study. Standard statistical tools such as factor analysis and accepted measures of reliability and validity (Cronbach's alpha) are applied and reported, while structural equation modeling has been used to re-validate certain findings. Multivariate regression is applied for testing the hypotheses.

Results indicate that several psychological (e.g. arousal-seeking, novelty-seeking tendency), socio-economic (e.g. income effect, opportunity cost) and behavioral factors (e.g. savings propensity, switching behavior) influence the individual's intention to redeem a coupon. The current research offers several academic and managerial implications, while providing promising prospects for further studies.

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CHAPTER 1

INTRODUCTION

This dissertation investigates consumers' choice behaviors in terms of using perceived savings from coupon redemption on grocery purchases. The study explores whether income and devaluation effects are salient dimensions of coupon usage behavior. It also investigates how consumers spend the savings from coupon redemption: whether they buy more of the promoted product, a complementary product, a substitute product or an unrelated product. The research was conducted on U.S. residents over the age of 18 residing in the Dallas-Fort Worth metropolitan, statistical area.

The topic of coupons has attracted substantial research attention over the last 25 years (Dhar, Morrison and Raju 1996; Dhar and Raju 1998; Henderson 1988; Narasimhan 1984). Coupons were introduced in the grocery industry as a temporary means to encourage new trials by competitors' consumers, and higher purchases by existing consumers. But in the past two and a half decades, coupons have evolved into a very effective promotional and marketing tool (Bonnici et al. 1996; Cheong 1993; Cronovich, Daneshvary and Schwer 1997). Today, coupon usage is no longer restricted to the grocery industry; instead, it has become very popular with non-grocer retailers in industries as varied as consumer durables, fashion accessories, and clothes and apparel, to name a few. Industry statistics suggests that the number of coupons distributed has shown a robust increase in recent years (Pinck and Schremp 2006), going up from 314 billion in

2003 to 342 billion in 2004 (Santella and Associates 2006), which shows that coupon distributors see a lot of potential in this promotional tool.

While coupon distribution is on the rise, coupon redemption rates are declining. This phenomenon is corroborated by both academic research and industry data. While coupons worth $331 billion in potential savings were distributed in 2006, consumers actually redeemed less than $3 billion of those. This indicates a fall in redemption rate by 13% as compared to 2005 (Montaldo 2007). In fact, coupon redemption rate has shown a declining trend over the last few years: 3.7% in 2002, 3.5% in 2003 to almost 1% in 2004 (Santella and Associates 2006). To the best of the author's knowledge, extant literature does not offer much rationale behind the contradictory phenomenon of increasing distribution numbers and declining redemption rates. As such, this makes the current topic rich with research potential.

Implications

Findings from this study have managerial implications in the areas of pricing and promotions efficiency, strategy, market segmentation and branding. If the results show that the perceived savings from coupon redemption is spent on the promoted item itself, then the manufacturers need to adjust their production levels accordingly in order to cater to the increased demand. If the results show that the consumer uses the savings to buy more of a competing brand or on products unrelated to the promoted one, then the promotional strategy has failed to have any positive impact on the promoted product, which calls for revisiting the coupon distribution strategy.

Redemption behavior might also provide some indication to the manufacturer of the promoted product to identify consumers who are loyal to a specific brand. It may be possible to distinguish between loyal redeemers, who would have purchased the product anyway (without the coupon), and switchers, who switch from a competitor brand or product to the promoted brand or product due exclusively to the coupon. This information could be used to make future coupon-based promotions more efficient and/or segment-oriented.

Finally, if the savings are spent on purchasing complementary products, then the retailer might want to place such products in shelf locations adjacent to that of the promoted product. The retailer must also make sure that adequate quantities of the complementary product(s) are available to satisfy the increased demand. In other words, this study has relevance not only for academics but also for manufacturers, retailers and coupon distributors.

Research Objective

The main objective of this research is to investigate if, how and why consumers utilize their savings from redeeming grocery coupons by purchasing more grocery products in a grocery store.

Coupon Redemption

The Coupon Council reported potential savings by consumers of more than $300 billion in the year 2004 resulting from coupon redemption (Rosenzweig 2006). The

Council also notes, based on industry reports, that coupon distribution and use(s) are ubiquitous. In 2004, for example, 46% of non-grocer retailers distributed coupons, while at most 76% of the United States' population (regardless of income barriers and age) redeemed coupons. When a consumer redeems a coupon, s/he pays a discounted price due to the value of the coupon. This discounted price is lower than what the consumer would have paid in the absence of the coupon—which, therefore, offers the consumer some savings. In other words, a strong perception of savings is an important motivator for the consumer in deciding whether to redeem the coupon. Some of the secondary factors that influence this decision-making are the face value of the coupon, the level of disposable income of the consumer and the shelf price of the product (Bawa and Shoemaker 1987; Henderson 1988; Leone and Srinivasan 1996; Neslin and Clarke 1987; Reibstein and Traver 1982).

Despite the present flourishing coupon manufacturing and distribution industry, coupon redemption rates have exhibited a steady decline in the recent years. This declining trend may be ascribed to factors such as an average expiration period of about three months, which might be too short for most consumers to redeem coupons or the percentage of coupons requiring multiple purchases, which has been at a constant 27% for the period of 2002-2004 (Santella and Associates 2006). Some of the other factors include unavailability of coupons when the consumer is ready to make a purchase and coupon proneness, which measures how likely a consumer is to redeem a coupon (Bawa and Shoemaker 1987) and consumer ethnicity. For example, Dong and Kaiser (2005)

show that African-Americans and Hispanic consumers redeem relatively fewer coupons in comparison to their Caucasian counterparts.

Many studies have identified factors that influence coupon redemption. For example, research by Prentice (1962) shows that trends in sales growth of a promoted product, size of purchase required for the redemption, period of time since the coupons were distributed and level of non-redemption in the geographical area where the coupons were distributed influence the degree and/or rate of coupon redemption. In addition, the *Nielsen Researcher* (1977) argues that demographic factors such as the age, income, family size and expenditures of the consumer significantly influence coupon redemption rates and patterns. Ward and Davis (1978) found that a brand's retail availability, face value of the coupon, competitive activity, coupon distribution, growth trend of the (promoted) product line, and timing of coupon distribution affect redemption rates. The *Nielsen Researcher* (1979) in a follow-up study noted that the method of distribution, product class size, audience reached by coupon, consumer's "need" for the product, degree of brand loyalty, and design of the coupon are all salient factors that affect redemption rates.

However, academic research has considered these factors in isolation of one another, rather than from a holistic perspective. In other words, marketing researchers have identified a long list of antecedents that influence coupon redemption (Reibstein and Traver 1982) but have failed to provide any rationale behind the alarmingly low coupon redemption rates. And yet, consumers saved as much as three billion dollars using coupons in 2004, while coupon distribution continues to be a significant source of

marketing expenditure that may impact consumers' product and brand choices. Thus, the motivation for the current study can hardly be overemphasized.

In addition, there appears to be a need to establish the effect of savings from coupon redemption, which can be achieved by drawing from both economics and psychology literatures. When a consumer redeems a coupon, s/he actually spends less than what was originally planned. In this respect, coupons enhance the consumer's real income. Though the consumer does not "earn" any extra income, coupon redemption precipitates a feeling of "savings" that invokes a perception of creating disposable income. Economists term this phenomenon of increase in "real" income as an "income effect" — a concept strongly grounded in economics literature (Kreps 1990; Mansfield and Yohe 2000; Parkin 1996; Pindyck and Rubinfeld 1998; Samuelson 1986; Varian 1999). Since "real income" represents the true purchasing power of the consumer with respect to goods and services (Samuelson and Nordhaus 1995), s/he acquires the ability to buy more of goods and services by redeeming a coupon, and this phenomenon engenders an income effect.

On the other hand, a coupon might also have a negative impact on the associated product, its manufacturer, and the retailer or on the entire process of coupon redemption. This may happen due to any of the following reasons: the consumer might feel that the promoted product is not as good as comparable products, which is why the manufacturer and/or retailer is enticing consumers by lowering the price, or trying to get rid of its unsold inventory. In other words, coupons can potentially have a negative impact on the associated brand and/or product (Davis, Inman and McAlister 1992). Research also

shows that consumers suffer from embarrassment while using coupons (Singelis and Sharkey 1995) or from fear of 'losing face' (Nelson and Moi 2005). The negative attitude of family members also contributes towards consumer apathy of redeeming coupons (Amin and Dave 1993; Chapman and Wahlers 1999; Huff and Alden 1998). In addition, some consumers apparently feel that the savings (especially from cents-off coupons) are too trivial and as such, coupons are not worth redeeming (Cheong 1993). Dodson, Tybout and Sternthal (1978) invoke self-perception theory (Bem 1972) to argue that promotions lead to brand devaluation because consumers attribute their purchase more to the promotion than to the product features. Research also shows lower repurchase probability due to promotions. Doob et al. (1969) apply dissonance theory to predict that consumers do not need to have a very high evaluation of a brand selected with a promotional incentive because they have less dissonance to resolve. Finally, consumers who do not possess redemption codes (the equivalent of online coupons) while purchasing products via the Internet feel dissatisfied with the whole experience (Oliver and Shor 2003). Thus, the promoted product potentially gets devalued in the consumer's mind for one or more of several reasons. This phenomenon is referred to as "devaluation effect" in the current study.

The process of coupon-redemption involves a series of steps that need to be performed by the consumer, including searching for, clipping, storing, carrying and finally redeeming the coupon at the checkout counter. This puts a strain on the consumer's cognitive and processing resources (Mowen and Minor 2001), such as the time and effort involved in the coupon redemption process. The consumer could have

utilized those resources in performing alternative activities. In other words, by getting involved in the coupon redemption process, the consumer foregoes the opportunity to perform those "other" activities, which can be considered the "opportunity cost" of redeeming the coupon. The concept of opportunity cost is widely accepted and applied in microeconomic theory (Kreps 1990; Mansfield and Yohe 2000; Parkin 1996). A strong negative relationship has been shown between coupon redemption and perceived value of time and effort involved in coupon redemption (Babakus, Tat and Cunnigham 1988; Bonnicci et al. 1996; and Shimp and Kavas 1984).

Finally, research suggests that some consumers are susceptible to coupons, a characteristic termed as "coupon proneness" in promotions literature. Coupon-proneness is defined as "increased propensity to respond to a purchase offer because the coupon form of the offer positively affects purchase evaluations" (Lichtenstein, Netemeyer and Burton 1990, p. 56). Studies by Swaminathan and Bawa (2005), Bawa and Shoemaker (1987) and by Narasimhan (1984) also lend strong support to the existence of the concept of coupon-proneness. Consumers with high levels of coupon proneness are more likely to redeem coupons.

It can be argued that the consumer's initial decision whether to redeem coupons depends mainly on four factors: the perception of savings, perception of devaluation, opportunity cost of redeeming coupons and the level of coupon proneness of the individual.

Even though extant literature provides some reasons for low coupon redemption rates (Reibstein and Traver 1982), the aspects of savings, devaluation and opportunity

cost and the roles these factors play in the consumer's decision-making process have been largely ignored. Moreover, if retailers and manufacturers can identify the reason(s) for the limited success of promotion using coupons, then they will be able to maximize their return on investment, enhancing the promotional effectiveness of coupons. Given that nearly a quarter of a century has passed since Reibstein and Traver's study was conducted in 1982, there is a need to reinvestigate the reason(s) for the huge gap between coupon distribution and redemption numbers.

As mentioned, the declining trend in coupon redemption rates leads to a gap between potential and actual savings by consumers. The relative strength of income and devaluation effects, as well as several psychological factors might help explain consumers' apathy towards coupon redemption. Understanding this would fill another major gap in the literature concerning this subject. The following section discusses the interaction between perceived savings and coupon redemption behavior.

Coupon Redemption and Perceived Savings

From an economic perspective, redeeming a coupon results in a perception of increase in real income of the individual, referred to as income effect. In addition, as the individual's real income increases, his/her propensity to save money decreases and the propensity to consume increases (Kreps 1990; Mansfield and Yohe 2000; Parkin 1996; Pindyck and Rubinfeld 1998; Samuelson 1986; Varian 1999). Therefore, coupons can potentially influence the savings propensity of the individual – which, in turn, can influence the decision to spend or keep the savings from coupon redemption.

From a psychological perspective, the decision to spend or keep the residual savings from coupon redemption is likely to be influenced by the consumer's degree of compulsive shopping behavior. According to Faber and O'Guinn (1989 and 1992), compulsive shopping behavior is characterized by chronic buying episodes of stereotypic fashion. The higher the level of this trait, the higher the intention of the consumer to spend (rather than keep) the savings.

In addition, when the perception of savings is strong, the consumer is more likely to spend (rather than keep) the savings, in comparison to a consumer who has a weaker perception of savings from coupon redemption. As Cheong (1993) argues, coupon face value must be drastically increased to encourage higher redemption rates and prevent deterioration of brand equity of the promoted product in the consumer's perception. The mere prospect of savings could elevate the consumer's mood, resulting in more spending. Arkes et al. (1994)argue that this phenomenon can be associated with higher purchases on that trip, and their view is corroborated by Golden and Zimmer (1986) and Sherman and Smith (1987). For example, the Mehrabian-Russell (1974) psychological approach to retail spending suggests that positive arousal and stimulus lead the consumer to spend more time and money at the store. Again, from a psychological perspective, arousal has been found to be a significant predictor of overspending in a retail environment (Donovan et al. 1994)—a phenomenon that can also be related to the literature on hedonic consumption (Chandon, Wansink and Laurent 2000). Such psychological arousal leads to an immediate response, resulting in higher purchase. Using an experimental design, Sherman and Smith (1987) concluded that there exists a positive relation between

consumer mood and two dimensions of purchase behavior: the number of goods purchased and the total monetary expenditure on those goods.

Literature also suggests that merely possessing (without actually redeeming) a coupon for the product enhances the consumer's preference for the promoted product within a consideration set (Sen and Johnson 1997). Therefore, it can be proposed that the higher the perception of savings from coupon redemption, the higher the level of arousal and greater the consumer's intention to spend the savings.

From a marketing perspective, manufacturers and retailers are aware of the phenomenon of savings through coupons, the consequent arousal sensation and compulsive shopping behavior of individuals. However, little effort has been made to emphasize the importance of these factors in shaping the consumer's purchase behavior, especially from the perspective of promotions. One notable consequence of an effort to emphasize these aspects might be an increase in coupon redemption rates. Therefore, it is worth casting a fresh look at the roles these factors play in helping the consumer decide whether to spend or keep the perceived savings from coupon redemption.

Therefore, it can be suggested that the decision to spend or keep the savings from coupon redemption is influenced by four factors: the individual's perception of savings associated with coupons, savings propensity, and the arousal-seeking and compulsive-shopping traits. Once the consumer decides to spend the savings, the next question that needs to be addressed is if and how they spend their savings.

Coupon Redemption and Utilization of Perceived Savings

A consumer is faced with several alternatives when it comes to spending that "extra income" from redeeming coupons. For example, consumers who have a higher feeling of savings than that of devaluation due to the coupon are more likely to purchase additional units of the promoted product itself. Specifically, the greater the positive difference between income effect and devaluation effect, the greater the consumer's intention to buy more of the promoted product.

However, the consumer may not necessarily use the residual savings from coupon redemption to purchase more of the promoted product *ad infinitum*. As microeconomic theory predicts, when an individual consumes more and more units of a product, the returns from each additional unit decreases. Eventually, the benefit of consuming an additional unit of that product becomes zero (Böhm-Bawerk 1973; Dmitriev 1974), and beyond that point negative. This phenomenon is commonly referred to as the law of diminishing marginal utility in economic theory (Kreps 1990; Samuelson 1986; Varian 1999). It can be assumed that for a consumer, buying more of the promoted product gets restricted by the size of the consumer's existing inventory of the same product, family size, storage space, and perishability of the product and/or health concerns from excessive consumption of the product. From a pragmatic perspective, therefore, the consumer will buy more of that product only as long as s/he feels that the benefits outweigh the "inconvenience" of consuming more units of the product, or, only as long as the utility derived is positive.

Alternatively, the consumer might have sufficient units of the promoted product but not of the complementary product(s), which must be consumed simultaneously with the promoted product (e.g. hot dog and hot dog buns). Under such a circumstance, s/he might intend to spend the savings from coupon redemption to purchase more of the complementary product. This behavior of the consumer is motivated by the theoretical underpinning that products are consumed for utilitarian as well as hedonistic purposes (Chandon, Wansink and Laurent 2000; Chiang 1995). In other words, the consumer might utilize his/her savings from coupon redemption to enhance his/her consumption and enjoyment of the promoted product by purchasing more of the complementary product.

In contrast to the above situation, if the promoted product gets highly devalued in the consumer's perception, then s/he might intend to utilize the residual savings by buying a competitive product which is very similar in features, benefits or price to the promoted product. Such products are popularly referred to as a "substitute" in microeconomic theory (c.f. Mansfield 2000; Parkin 1996). Thus, the higher the devaluation effect, the higher is the consumer's intention to utilize his/her savings from coupon redemption to buy more of a substitute product instead of the couponed product (e.g. using savings from redeeming coupons on Kellogg's *All Bran*® to buy Post's *Raisin Bran*®).

Extant literature also reflects the role of coupons on the individual's brand switching behavior. Research suggests that coupons encourage consumers to switch between competing brands or products (Gedenk and Neslin 1999; Neslin and Clarke

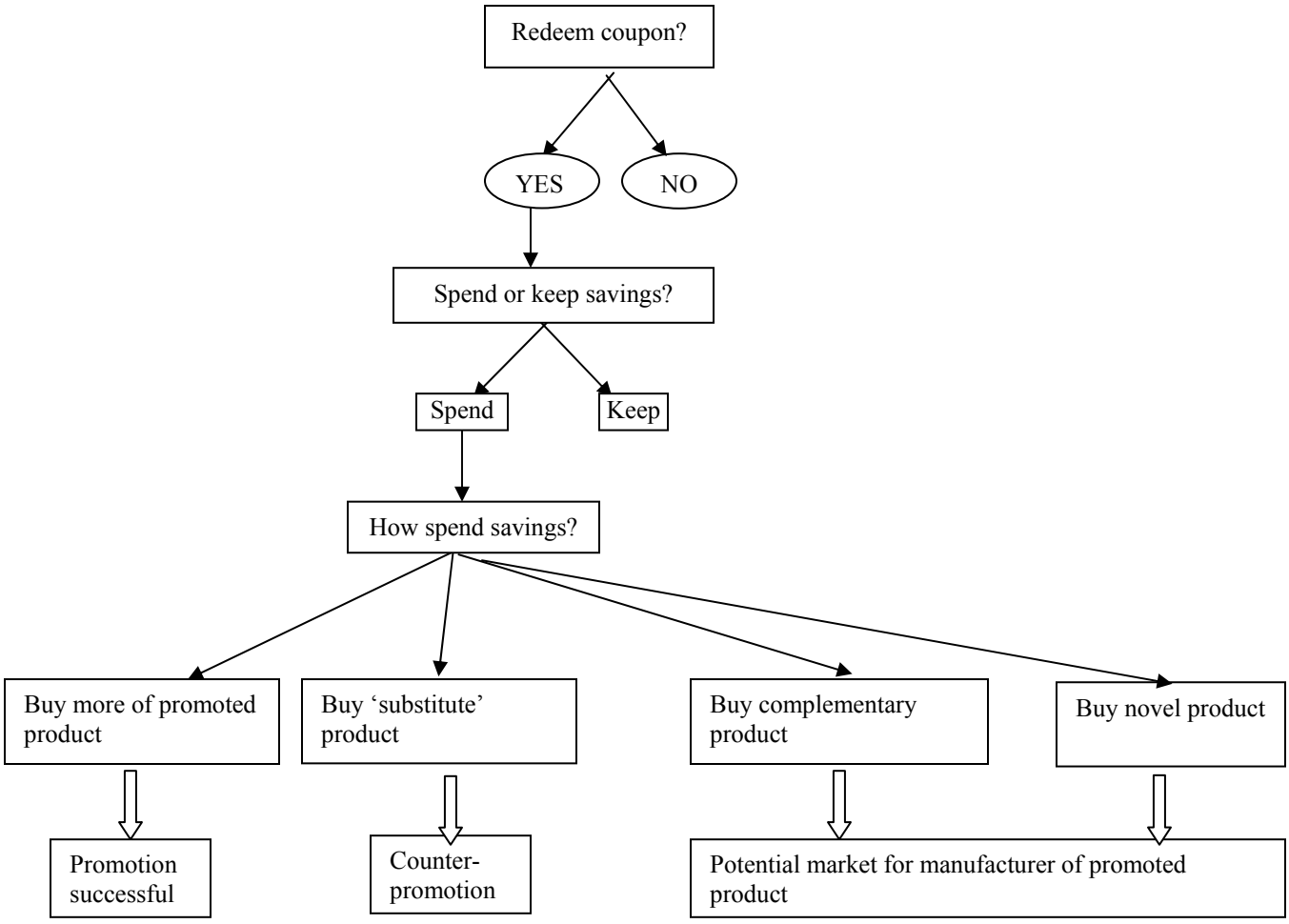
1987). For the current study, most (if not all) of the selected convenience goods offer the consumer a choice among several competing brands (or substitutes). Therefore, it can be argued that the higher the switching behavior of the individual, the higher the likelihood that s/he will utilize the residual savings from coupon redemption to purchase more of the substitute rather than the promoted product.

Some individuals possess a disposition to try out new and unfamiliar things. Marketing and psychology literatures have coined the term "novelty-seeking" to describe this particular trait (Sproles and Kendall 1986; Sproles and Sproles 1990). The novelty-seeking trait might motivate the individual to purchase a product that is unrelated to the promoted product. As such, the likelihood that an individual will spend the savings from coupon redemption to purchase novel products is likely to be positively associated with the individual's novelty-seeking behavior (see Figure 1 for the portfolio of purchase options available).

It is, therefore argued that past research has paid scant attention to how the consumer's utilization of savings from coupon redemption is influenced by the strength of income effect over the devaluation effect, diminishing returns, switching behavior and novelty-seeking trait. The current study is an attempt to address that gap from a marketing, economic and psychological perspective. The next section outlines the context of the current research and delineates its importance.

FIGURE 1

Portfolio of Choices Available to the Consumer



Research Context

Focal product category

The current research concentrates exclusively on grocery items that are considered to be part of a larger category of products called "convenience products," such as milk, bread, snacks (chips, munchies, cakes, cookies), cheese, juice, meat (beef, chicken, pork), frozen ready-to-eat, and soft drinks (Barat and Paswan 2005). The reason for this is threefold. First, these products are usually purchased more frequently than other grocery product categories. The higher the frequency of purchase, the better the respondent's recall ability with regard to purchase behavior, which is critical in eliciting reliable and realistic responses from consumers. Second, industry reports show that the highest coupon distribution and redemption rates exist in the convenience grocery products category (Coupon Council 2005). Out of all coupons distributed in 2000, almost 74% were redeemed in grocery stores (PROMO magazine, as cited by the Coupon Council 2005). Finally, the convenience products category also includes several substitute or complementary products – another condition pertinent to the central question of this research: how and why consumers spend the savings from coupon redemption.

Preferred grocery location

As far as grocery-shopping habits are concerned, some consumers frequent traditional grocery stores (such as Albertsons® or Kroger®), while others prefer discount stores like the Wal-Mart Supercenter®, or discount warehouse clubs such as Costco®. Lack of consistent research data precludes drawing any strong conclusion about

consumers' preferred channel for grocery shopping. In a discount store such as Wal-Mart®, the consumer has more "non-grocery" options available on which s/he can spend his/her savings from coupon redemption. Since the focal product category for this study is convenience grocery products, the preferred channel of choice for the current research is the traditional grocery store as a primary retail setting for coupon redemption. However, respondents redeeming coupons at non-traditional grocery stores would also provide us usable data.

Types of coupons

The third and final aspect of the current research context is the type of coupon consumers redeem. As noted earlier, the main research question for the current study is how and why consumers spend the savings from coupon redemption. This study focuses on consumers who plan their grocery shopping and coupon redemption in advance, such as those who have a grocery shopping list and budget. Coupons that are delivered to the customer's residence either through mail or as door-knob fliers offer the customers an opportunity to examine, select and assemble a subset for future redemption. In addition, coupons available at the store prior to the start of the shopping trip are also included. In other words, this study does not focus on surprise coupons. The next section introduces the reader framework of the study.

Research Framework

Extant literature in marketing, applied economics and retailing has looked at how coupons affect consumer purchase behavior (Bawa and Srinivasan 1997; Cronovich,

Daneshvary and Schwer 1997; Gould 1997; Leone and Srinivasan 1996; Srinivasan and Leone 1995; Taylor 2001) as well as on redeeming intentions (Ramaswamy and Srinivasan 1998; Reibstein and Traver 1982; Shoemaker and Tibrewala 1985). However, the coupon redemption process, when viewed from a consumer's perspective, is not simple. Rather, it is the culmination of a series of steps that need to be followed by the consumer, which includes searching for, clipping, storing, locating and carrying the coupon to the store for redemption. The process gets further complicated by both internal and external factors. The former includes the consumer's attitude towards using coupons, towards the brand or product and beliefs about the consequences of coupon redemption. The latter or external factors include the consumer's ability to locate the promoted product, to remember to redeem the coupon, and monitor coupon expiration dates. All of these factors may have a pivotal role in shaping the consumer's intention to redeem the coupon. According to Shimp and Kavas (1984), coupon usage behavior is rational, systematic and thoughtful rather than being under control of subconscious motives.

Despite such involvement in the redemption process, coupon-usage behavior is perceived as trivial by many consumers (Heilman, Nakamoto and Rao 2002), which makes it difficult to collect relevant data from coupon users. Additionally, it is difficult to record the consumer's response in a self-reported (rather than a shopping-cart) study. Responding to a self-reported instrument requires the subject to recall past usage behavior, which may be difficult, especially if the act of coupon redemption is considered "trivial" by the respondent.

In this respect, both recency and frequency of past coupon usage behavior has been found to influence redemption intention of the individual (Bagozzi, Baumgartner and Yi 1992b). In addition, coupon redemption intention has been found to be a strong predictor of actual coupon redemption behavior (Shimp and Kavas 1984). Therefore, it can be argued that for the purpose of the current study, intention to redeem the coupon, to keep or spend savings and intention to spend the savings from coupon redemption on promoted product, a related product or on an unrelated product will be considered appropriate predictors of the respective behavioral outcomes. As such, the current study obtained self-reported survey data from consumers who intend to redeem grocery coupons on a regular basis.

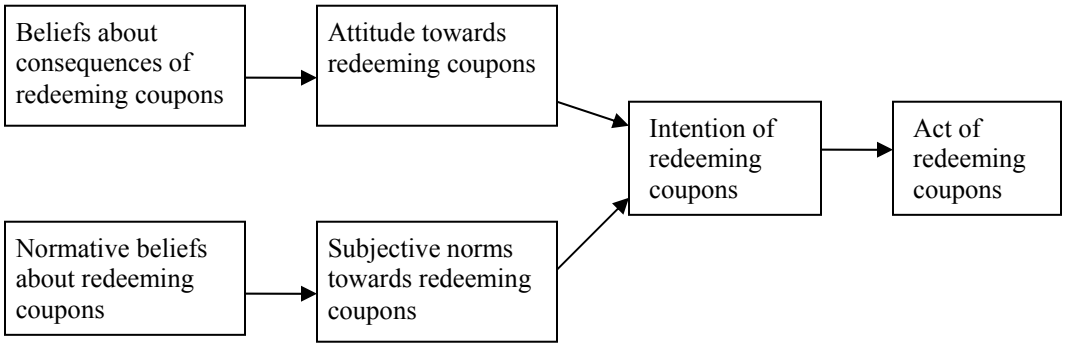
Theoretical Framework

The theory of reasoned action provides an appropriate framework within which the current research can be anchored. According to this theory, an individual's beliefs about the consequences of performing an action influence his/her attitudes towards that action. The individual's attitude towards an action, in turn, influences his/her intention to perform that action (Ajzen and Fishbein 1980; Fishbein and Ajzen 1975 and Fishbein and Jaccard 1973). In other words, the individual's intention to spend savings from coupon redemption is contingent on the individual's intention to redeem the coupon in the first place. Intention to redeem the coupon depends, in turn, on the individual's beliefs about the consequences of redeeming the coupon as well as attitude towards coupon redemption.

Not unexpectedly, the theory of reasoned action has been widely applied in research pertaining to coupons. In the current context, the individual's normative beliefs about the feelings of his/her close friends and relatives towards using coupons also affect the individual's subjective norms (refer to Figure 2). For example, the individual might believe that using coupons is a "smart" thing to do, leading to a positive attitude towards coupon redemption; at the same time, s/he might believe that his/her close friends and family consider the whole process of redeeming coupons a waste of time, which may lead to negative subjective norm towards redeeming coupons.

FIGURE 2

The Theory of Reasoned Action as Applied to Coupon-Usage Behavior



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Thus, it is the relative strength of the individual's attitude and his/her subjective norms towards redeeming coupons, which influences the individual's intention whether to redeem the coupon. This intention might eventually lead to actual coupon redemption (Ajzen and Fishbein 1980; Bagozzi, Baumgartner and Yi 1992 a, b; Fishbein and Ajzen 1975; Ramaswamy and Srinivasan 1998; Shimp and Kavas 1984).

Thus, the theory of reasoned action provides the overarching framework for the current research. As explained earlier, the research framework encompasses three stages of the consumer's decision-making process, e.g., intention whether to redeem the coupon, intention to spend or keep the perceived savings from coupon redemption and intention to spend the savings on alternative purchases. As such, there exist several independent variables at each of these stages. For purposes of testing the hypotheses, the independent variables are arousal-seeking, compulsive shopping, coupon proneness, devaluation effect, diminishing returns, income effect, novelty-seeking, opportunity cost, savings propensity, and switching behavior of the individual.

The following chapter provides a thorough review of the relevant literature and introduces the research hypotheses for the current study. After that, Chapter 3 presents an outline of the methods and measurement aspects of the dissertation, while Chapter 4 discusses the findings of the study. Chapter 5 interprets the results of the analyses and finally, Chapter 6 summarizes the limitations of the current study, and its academic and managerial implications as well as provides directions for future research.

CHAPTER 2

LITERATURE REVIEW

Introduction

In the course of the literature review that follows, a discussion on coupon usage trend in the US and how (if at all) that trend has changed over the last few decades is provided. It is followed by a review of some of the reasons why consumers redeem coupons. However, given the topic of interest, the discussion focuses on 1) the interaction between coupon redemption and perception of savings and devaluation by the consumer and 2) how the savings, in turn, affects consumer's purchase behavior. The subsequent discussion is framed around the disciplines of psychology, economics and marketing, which is necessary in order to establish that coupon redemption is indeed associated with perception of savings by the consumer. As a result, the consumer would be motivated to utilize those savings for further grocery purchases.

Coupons are available in different kinds, depending on the type of discount offered (buy-one-get-one-free, cents off, percent off), method of distribution (free-standing inserts, regular mail, Internet), or its distributor (manufacturer vs. retailer). The following section describes the broad spectrum of coupons as a marketing tool; the literature review also offers the reader an idea of how extensively coupons have been studied in past research, and also focuses on different types of coupon usage studies, such as longitudinal, cross-sectional, or scanner panel-based.

An overview of the literature on coupon research reveals the following characteristics. First, while the number and dollar volume of coupons distributed have been steadily increasing in recent years, redemption rates have been on the decline. Redemption figures have dropped down to alarmingly low levels (close to one percent of the total number of coupons distributed) over the last few years, prompting academics to cast a fresh look at this issue.

Second, there are different antecedents and consequences of coupon redemption behavior. A review of the literature on these factors and the formerly mentioned topics will form the basis for a majority of the hypotheses that the current research investigates.

Finally, researchers have anchored their studies about coupons on several theoretical frameworks, which span different disciplines such as psychology, marketing, and advertising. Of those frameworks, the theory of reasoned action warrants particular attention because it is one of the most widely used in social science research and also forms the basis of the current study.

Coupon Distribution and Usage

As mentioned at the beginning of Chapter 1, coupons have been around as a promotional tool for far more than a quarter of a century. The first coupons were issued as far back as 1874 (Pinck and Schremp 2006). Since then, the distribution and use of coupons have evolved substantially. What was initially confined to the grocery business has, at present, been accepted and popularized by non-grocery retailers and manufacturers to a remarkable extent—so much, so that 46% of retailers reported having

offered some sort of coupon-based promotions to their consumers in the year 2004 (Pinck and Schremp 2006). As such, this topic has attracted notable attention from academics and practitioners alike. For example, a recent study by NFO Worldgroup suggests that in the US, Internet coupon redemption numbers (by product category) are impressive: groceries account for 36.9%, health care accounts for 33.3%, beauty for 32.7% of the coupons redeemed, restaurants (excluding fast food) 24.5%, books 23.2%, toys 22.9%, fast food 21.7%, computer equipment/software 21.4%, electronic equipment 21%, clothing/shoes 14.2% and music CDs account for 9.1% (Santella and Associates 2006).

Actual numbers on coupon distribution or redemption vary somewhat, but a review of industry data and pertinent literature underlines the ubiquity and importance of coupons in today's business, as indicated in Chapter 1. Coupon users save an average of 11.5% on their grocery bills using coupons (Coupon Council 2007). Overall, manufacturers distributed more than $300 billion worth of coupons in 2004. According to a report in *American Demographics* (2001), the value of coupons distributed increased from $307 billion in 1999 to $330 billion in 2000. Nevertheless, one major concern for retailers and manufacturers appears to be the steady decline in redemption rates. A secondary problem seems to arise from a trend that loyal consumers, whose purchase of the product is not contingent on the coupon, redeem most of the coupons. As such, some marketers also feel that coupons result in wastage of resources (Silva-Risso and Bucklin 2004).

Coupon Usage and the Concept of 'Savings'

Consumers use coupons for a variety of reasons, but the self-satisfaction associated with savings (Babakus, Tat and Cunnigham 1988) seems to play a major role in coupon redemption. Such motivation is supported in psychology, economics and marketing literature. From a psychological perspective, Donovan et al. (1994) suggests that a feeling of savings is positively associated with the individual's level of "arousal". According to the Mehrabian-Russell model, environmental stimuli influence the individual's psychological state in a positive or negative manner—which, in turn, triggers an "approach" or "avoidance" response from the consumer. Along similar lines, Sherman and Smith (1987) argue that mood states constitute a very important set of affective factors, which influence the behavioral outcome of the individual. In other words, from a purely psychological perspective, there is considerable evidence to suggest that a feeling of savings engendered by coupon redemption will lead the consumer to spend more time and money on that shopping trip.

From an economic standpoint, when a consumer redeems a coupon s/he arguably pays less than the retail price of the promoted product. Thus, the individual is left with more disposable income and purchasing power than originally anticipated. This phenomenon is termed as an increase in the "real income" of the consumer. Microeconomic theory suggests that an increase in real income is accompanied by an increase in demand of goods and/or services, *ceteris paribus* (Kreps 1990; Mansfield and Yohe 2000; Parkin 1996; Pindyck and Rubinfeld 1998; Samuelson 1986; Samuelson and Nordhaus 1995; Varian 1999).

Finally, from a marketing perspective, the feeling of savings by redeeming a coupon has been found to be associated with several outcomes such as an increase in aggregate purchase expenses, increase in the number of unplanned purchases on a particular shopping trip or a hike in discretionary spending of budgeted items by the consumer. For example, Heilman, Nakamoto and Rao (2002) argue that when a consumer finds a "surprise coupon" in the store (at the aisle, checkout counter or as a peel-off coupon), there is a strong possibility that s/he will make more unplanned purchases leading to an increase in the size of the overall shopping basket. The authors also hypothesize that under these circumstances, the consumer might purchase more of a "treat", a product on sale, or another product that is primed by the promoted product. This phenomenon of increased spending due to unanticipated gain is also corroborated by Arkes and colleagues (1994). From the discussion above, therefore, redeeming coupon is positively associated with perception of savings by the consumer and results in higher purchases.

Types of Coupon

Coupons are available in all shapes and sizes; they can be classified according to the type of discount, their source or origin and the medium of distribution. For example, some coupons offer a certain discount (cents-off), while others offer a certain percentage off of the retail price of the product. Some authors have focused on cents-off coupons (Amin and Dave 1993; Chapman and Wahlers 1999; Chen, Monroe and Lou 1998; Heilman, Nakamoto and Rao 2002; Raghubir 1998), while others have conducted

research on percent-off coupons exclusively, or on a combination of percent-off and cents-off coupons (Chen, Monroe and Lou 1998; Grewal and Marmorstein 1994; Laroche et al. 2003). The current study, however, does not distinguish between these two categories.

As to their origin, most coupons are distributed either by the retailer (e.g. grocer) or the manufacturer of the product. Manufacturers' coupons draw a more favorable attitude towards the manufacturer (or towards the promoted product) from the consumer and often influence the consumer to switch purchase behavior in favor of the promoted item (Ailawadi, Lehmann and Neslin 2001; Babakus, Tat and Cunnigham 1988; Gedenk and Neslin 1999; Neslin and Clarke 1987; Raghubir 1998; Reibstein and Traver 1982; Shoemaker and Tibrewala 1985). On the other hand, retailer coupons positively affect the store's and retailer's loyalty more than the brand loyalty of the consumer. For example, as Heilman, Nakamoto and Rao (2002) suggest, when a consumer who does grocery shopping at multiple stores receives a retailer coupon from a particular store, the consumer forms a more favorable disposition towards the store. Consequently, the consumer might make purchases from the preferred store that had originally been planned for another store. Some other authors who have focused on retailer coupons include Neslin (1990), Nevo and Wolfram (2002), and Walters and Jamil (2003). For the current study, however, no distinction is made between retailer- and manufacturer-issued coupons.

Finally, coupons can also be categorized based on their method of distribution, although for the purpose of the current study, no such distinction is made. Coupons may

be distributed inside the store as free-standing inserts (FSI-s) available in the store circular, or through coupon dispensers at the aisle or at the checkout counter. They can also be attached to the purchase receipts (the last two types are referred to as "surprise" coupons by Heilman, Nakamoto and Rao 2002). In-store coupons have been the subject of studies by Blattberg and Neslin (1989), Dhar, Morrison and Raju (1996), Dhar and Raju (1998), Inman and Winer (1998) and Raju, Dhar and Morrison (1994). On the other hand, outside of the store, coupons may be distributed as FSI-s in magazines, newspapers, direct mail or through the Internet (the last category is often referred to as "e-coupons"). Media-distributed coupons have been studied by several authors, prominent among them being Bawa and Srinivasan (1997), Huff and Alden (1998), and Reibstein and Traver (1982). Even though some academics contest that "surprise" in-store coupons are capable of generating higher sales (Arkes et al. 1994; Donovan et al. 1994), I assert that there is no conclusive evidence as to which of these two types of coupon is more popular with consumers. The next section presents a discussion on the relevance of source of data to type of data on coupons.

Sources of Data on Coupon Usage

Based on a review of the literature on coupons, certain trends surface. Some researchers focus on secondary sources such as scanner panel data (available with retailers), the Stanford Market Basket Data or the Nielsen Clearinghouse data. For example, Heilman, Nakamoto and Rao (2002) have used the Stanford Market Basket data for their study pertaining to surprise coupons. Leone and Srinivasan (1996) based their

study on purchase behavior of several thousand individuals using data provided by AC Nielsen, in order to investigate the effect of coupon face value on redemptions. Bawa and Shoemaker (1987) used data from the National Consumer Panel hosted by NPD Research, in their study on the consumer's purchase behavior across different product classes. Secondary data provides the researcher a viable option when time is a constraint. On the other hand, caution must be exercised because the researcher may have little, if any, knowledge about how and when the data was collected. Secondary data may not necessarily provide the information that a researcher is looking for, because it was probably collected for other purposes. Above all, secondary data can be expensive to purchase.

Other researchers, however, have used primary data sources such as shopping cart information to conduct research on coupons, where data is collected directly from shoppers during or immediately after their shopping trip. Other examples of primary coupon data include self-reported questionnaires or face-to-face interviews and mall-intercepts. For example, Bagozzi, Baumgartner and Yi (1992 a and b), Burton et al. (1990), Chapman and Wahlers (1999), Garretson and Clow (1999) and Mittal (1994) have all used primary data for studying coupons, as is the case with the present study, which uses self-reported questionnaires. Primary data provides the researcher more control over data collection, both in terms of methods and source. As such, findings are more likely to be valid and reliable.

Theoretical Framework

As indicated earlier, a few theories have motivated coupon-related research over the last several decades. In this section, literature pertaining to some of the most prominent theoretical frameworks associated with coupon redemption behavior is reviewed, and this also provides the groundwork for introducing the hypotheses for the current research.

From a holistic perspective, the process of coupon redemption is the culmination of a well-planned and organized series of steps that need to be initiated and followed through by the consumer; for example, searching for the coupon, clipping and storing it, remembering to take it to the store on a shopping trip before the expiration date and remembering to provide the coupon at the checkout counter (Bagozzi, Baumgartner and Yi 1992b). These steps are even more obvious in a situation where the individual is browsing through newspapers (Ramaswamy & Srinivasan 1998) while at home. In contrast, when the consumer finds coupons in the store unexpectedly, the individual usually redeems them immediately. Often, coupon redemption requires the individual to comply with additional steps such as searching for the specific product(s) in the store, buying a minimum quantity and/or matching products. Thus, the time and effort expended by the individual in this process can be considered the "cost" of redeeming the coupon.

Some of the benefits of redeeming coupons, on the other hand, include savings (Ramaswamy and Srinivasan 1998), satisfaction (Arkes et al. 1994; Donovan et al. 1994), enjoyment (Mittal 1994; Papatla and Krishnamurthi 1996), variety-seeking (Laroche et

al. 2003; Narasimhan 1984) and elevation of mood or "arousal" (Donovan et al. 1994; Golden and Zimmer 1986; Sherman and Smith 1987). These benefits have been classified based on their economic (Dodson, Tybout and Sternthal 1978; Ramaswamy and Srinivasan 1998) and psychic (Bawa and Shoemaker 1987) dimensions.

Such benefits can also be categorized as "utilitarian" vs. "hedonic". Chandon, Wansink and Laurent (2000) argue that monetary and non-monetary sales promotions are capable of providing different levels of hedonic benefits to the consumer, such as value expression, entertainment and exploration. On the other hand, some consumers can also derive utilitarian benefits as exemplified by savings, better product quality or enhanced shopping experinece from coupon usage. Irrespective of whether coupon usage is looked at from an economic-psychic perspective or from a utilitarian-hedonic perspective, transpiring from the aforementioned operational standpoint, the consumer will redeem a coupon only if the benefits outweigh the costs associated with doing so. In other words, when an individual receives a coupon, s/he conducts a cost-benefit analysis, which helps him/her decide whether it is worth redeeming a coupon (Alvarez and Casielles 2005; Heilman, Nakamoto and Rao 2002; Nelson and Moi 2005; Nevo and Wolfram 2002).

However, the process of comparing the benefits against the costs and arriving at a decision regarding whether to redeem a coupon is a complicated one. As such, researchers have attempted to anchor their hypotheses and findings to a framework that reflects this complexity, which is the main subject of discussion in the following section.

Past coupon usage behavior has been shown to influence intentions and future actions to a certain extent. Controversial findings exist regarding the mediating or

moderating effects of attitudes and subjective norms on present action and future behavior. For example, as Bagozzi, Baumgartner and Yi (1992a) point out, in some cases, the effect of past behavior on intention is not fully mediated by attitudes and subjective norms; in other cases, the effect of past behavior has a direct effect on present action that is not mediated by intentions (Ajzen and Madden 1986; Bagozzi 1981; Bentler and Speckart 1979; Fredericks and Dossett 1983).

As indicated in Chapter 1, the theory of reasoned action provides the overall framework for the current study. The theory suggests that an individual's beliefs about the consequences of certain actions shape his/her attitudes towards the actions. Attitude, in turn, influences intention to perform the action, and intention potentially influences the actual behavior of the individual. Applying this theory to the present context, it can be suggested that an individual's beliefs about the consequences of redeeming a coupon influence the individual's attitude towards redeeming coupons. As Ramaswamy and Srinivasan (1998) note, researchers have investigated how coupon characteristics influence both redemption behavior (Reibstein and Traver 1982) and redemption intentions (Shoemaker and Tibrewala 1985).

One of the reasons why the theory of reasoned action has been applied extensively to coupon research is that it also incorporates the notion of "subjective norms," which basically refers to the individual's perception as to how his/her close associates feel about the act of coupon redemption by the individual. This issue assumes more significance in collectivist societies. Lee and Green (1991) note, "It seems logical that societies with strong group conformity pressures would foster strong interactions

between individual and societal attitudes" (p. 293). Huff and Alden (1998) corroborate this notion by invoking two social factors: attitudes of friends and family towards coupons and fear of embarrassment when using coupons as determinants of coupon redemption behavior. Their findings are supported by those of Green (1995 and 1996), Hofstede and Bond (1988), Kashani and Quelch (1990), Kaufman and Hernandez (1990), Singelis and Sharkey (1995), and Yovovich (1981).

Even though some authors (Ajzen, Timko and White 1982; Bagozzi, Baumgartner and Yi 1982a; Saltzer 1978) suggest that the strength of the intention-behavior relationship varies with certain individual-difference variables (e.g. low vs. high self-monitors; low vs. high external locus of control), such variables do not affect the hypothesized outcomes of the current study. The only variable in the present context that does not fall under the purview of the theory of reasoned action is that of "compulsive shopping," in which an individual's action is not necessarily the result of prior planning. Nonetheless, extant literature shows that compulsive shopping plays a key role in buyer behavior (d'Astous 1990; Faber et. al 1992), and as such is also hypothesized to influence the decision whether to keep or spend the savings from coupon redemption.

There is overwhelming literary support in favor of intention as a predictor of actual behavior (Bonfleild 1974; Manstead, Proffitt and Smart 1983; Zuckerman and Reis 1978). Shimp and Kavas (1984) have provided strong evidence that suggests that the theory of reasoned action can be applied to coupon usage behavior. In view of the above arguments, therefore, the theory of reasoned action is considered to be the most

appropriate and overarching framework in which the current study is anchored. The next section leads us to the hypotheses development for the current study.

Hypotheses Development

In terms of hypotheses development, the following sections provide a review of literature pertaining to research on variables affecting coupon redemption and consequences of coupon redemption. The variables corresponding to each stage of the coupon redemption process are discussed in brief. Each section concludes by introducing the hypotheses specifically associated with that stage of the redemption process.

Factors affecting coupon redemption

According to a meta-analysis (Barat and Ye 2004) of the literature pertaining to coupons, factors affecting coupon redemption behavior can be broadly classified into three categories: coupon attitude, coupon perception and coupon knowledge (Appendix A). Each of these three categories, in turn, consists of a few sub-categories.

Coupon attitude, for example, incorporates consumer coupon attitude, which measures the individual's overall attitude towards coupons (Ailawadi, Lehmann and Neslin 2001; Amin and Dave 1993; Bagozzi and Baumgartner 1990), family coupon attitude, which measures how the family members of the individual feel about coupons, as measured by Amin and Dave (1993) and embarrassment from using coupons (Amin and Dave 1993; Bagozzi and Baumgartner 1990; Chapman 1997; Huff and Alden 1998). It may be noted that the "family coupon attitude" component of coupon attitude is similar

to the "subjective norm" aspect of the theory of reasoned action, which provides the theoretical base for the current study.

The next factor which influences coupon redemption is the construct of "coupon perception," which measures how the consumer perceives a coupon. Chen, Monroe and Lou (1998) and Garretson and Clow (1999) have identified coupon face value perception and coupon discount perception, whereas Inman and McAlister (1994) and Lichtenstein, Netemeyer and Burton (1990) consider coupon discount rate perception, as sub-factors that affect the construct of coupon perception. Similarly, Raghubir (1998) and Reibstein and Traver (1982) suggest that the construct of coupon perception depends on whether the individual is value conscious and views coupons favorably.

The third factor that affects coupon redemption behavior is "coupon knowledge," which is basically an indicator of the level of information that the consumer has about coupons and coupon-related features, such as the face value, percent of discount and expiry date of the coupon. Heilman, Nakamoto and Rao (2002) and Huff and Alden (1998) suggest that the consumer's degree of price sensitivity or price perception influences how s/he will evaluate the coupon. Such sensitivity and perception potentially influence the level of coupon knowledge of the individual. For example, consumers who are highly sensitive to price may react favorably to a small face value of the coupon. Moreover, Huff and Alden (1998) and Taylor (2001) suggest that the individual's preference for mode of coupon distribution (in-store vs. through media) and coupon type (electronic coupon, FSI) also enhance his/her knowledge about the coupon features.

Finally, coupon knowledge of the individual is also a function of product familiarity and prior exposure to a product, as suggested by Heilman, Nakamoto and Rao (2002), Reibstein and Traver (1982) and Taylor (2001). For example, if an individual has been using coupons to purchase a particular product for a considerable period of time, unavailability of the coupon might induce the consumer to postpone his/her purchase decision until such a coupon becomes available. Such behavior might be more noticeable when the individual knows precisely when a coupon for that product will be available in the future, which may be due to prior familiarity with the promoted product.

On the other hand, if the manufacturer or retailer discontinues distributing coupons for a product for which coupons were regularly available in the past, then the consumer might develop a negative feeling towards the product. Historically, such attempts by manufacturers such as Procter & Gamble® met with negative reactions from consumers, and the manufacturer was forced to restart the promotion. Finally, a high face value of the coupon might make the consumer suspect about how much the promoted product is actually worth; in some cases it might even send a signal to the consumer that the product is high-priced (Raghubir 1998). Under other circumstances, coupons can give the impression that the promoted product is actually worth substantially less than what it retails for. It transpires, therefore, that coupon knowledge can potentially influence coupon redemption behavior of the individual.

Consequences of coupon redemption

Just as several factors influence the coupon redemption behavior of the individual, similarly, there are several consequences of coupons on the consumer's purchase

behavior. A review of relevant literature conducted by Barat and Ye (2004), suggests that these influences can be broadly categorized into three dimensions: those of coupon use, brand perception and purchase behavior. In terms of coupon use, Huff and Alden (1998), Lichtenstein, Ridgway and Netemeyer (1993), Mittal (1994), and Reibstein and Traver (1982) suggest that the level and frequency of coupon use are the most common and appropriate measures. Other dimensions of coupon usage include the redemption value and number of redemptions.

Another consequence of coupon redemption is brand perception. Chapman and Wahlers (1999) find that coupons have significant effect on brand loyalty of the individual. In certain cases, coupon distribution for one brand triggers competitiveness among related brands; in extreme cases, persistent couponing for one brand even leads the consumer to switch brands (Lichtenstein, Netemeyer and Burton 1990; Papatla and Krishnamurthy 1996). Amin and Dave (1993) show that coupons not only encourage new trials, but some of those also convert into repeat purchases and an eventual shift in preference in favor of the couponed product.

Stages in coupon redemption

It may be recalled that there are three stages of decision-making involved in the consumer's coupon redemption process (Figure 1, Chapter 1). When the consumer sees a coupon, s/he decides whether it is worth saving it for future redemption. Once the consumer redeems it, s/he needs to decide whether to keep or spend the savings from coupon redemption. Finally, if the consumer decides to spend the savings, the subsequent decision involves *how* to spend the savings from coupon redemption. The next few

sections focus on introducing the hypotheses corresponding to each of stage in the coupon redemption process, as laid out for the current study. Since the constructs (independent variables) were already explained in detail in the previous sections, here they are referred to only in brief.

Stage 1: Whether to redeem the coupon

A high face value of the coupon might suggest to the consumer that the product is worth substantially less than what it retails for; a coupon might also send a message to the consumer that the manufacturer is trying to get rid of its unsold inventory. In either scenario, there exists the possibility of negative influence on the coupon redemption intention of the consumer (Davis, Inman and McAllister 1992), and this motivates the first hypothesis as follows:

H1a: The consumer's intention to redeem the coupon is negatively associated with the perception of devaluation of the promoted product due to the coupon.

On the other hand, the consumer also enjoys a perception of savings on seeing a coupon, which is referred to as income effect in microeconomic literature (Parkin 1996; Pindyck and Rubinfeld 1998). Specifically, the higher the perception of savings by the consumer, the higher the intention of the consumer to redeem the coupon. This phenomenon leads to the second hypothesis as:

H1b: The consumer's intention to redeem the coupon is positively associated with the perception of savings due to the coupon.

From an economics perspective, the consumer could have utilized the time and effort expended in searching for, clipping, storing, carrying and finally redeeming the coupon at the checkout counter on some other activity (Babakus, Tat and Cunningham

1988). This is referred to as the opportunity cost of coupon redemption, which potentially influences the decision whether to redeem the coupon. Thus, higher the opportunity cost of redeeming the coupon, the lower is the intention to redeem the coupon. This is captured in the third hypothesis as follows:

H1c: The consumer's intention to redeem the coupon is negatively associated with the opportunity cost of coupon redemption.

Finally, consumers who are prone to coupons are more likely to redeem those in comparison to consumers who are not as susceptible to coupons. The construct of coupon proneness has received substantial application in promotion and marketing literature (Swaminathan and Bawa 2005; Lichtenstein, Netemeyer and Burton 1990; Bawa and Shoemaker 1987). Thus, the final hypothesis in the first stage of the coupon redemption process is laid out as follows:

H1d: The consumer's intention to redeem the coupon is positively associated with the coupon proneness of the consumer.

Stage 2: Keep or spend the savings

The consumer will spend the savings only if s/he perceives a positive income effect (Kreps 1990, Mansfield and Yohe 2000; Parkin 1996). It might also be argued that if the consumers perceive the savings to be very high (or beyond a "threshold" level), they might choose to keep rather than spend the savings. But for the present study, such extreme cases are ignored, which motivates the next hypothesis:

H2a: The consumer's intention to spend the savings from coupon redemption is positively associated with the perception of savings.

However, the intention to spend or keep the savings from coupon redemption is also a function of the individual's behavioral traits, as identified by his/her 1) compulsive

shopping behavior and 2) level of arousal or excitement due to the anticipated 'savings' from coupon redemption. Both of these traits have strong support in promotions literature. A "compulsive shopper" is one whose behavior is "typified by chronic buying episodes of a somewhat stereotyped fashion in which the consumer feels unable to stop or significantly moderate the behavior" (Faber and O'Guinn 1989 p. 738). Similarly, d'Astous (1990) notes that compulsive buying is characterized by an "extreme case of generalized urge to buy" (p. 16). Evidence of compulsive buying traits resulting in bouts of purchase is also corroborated by Faber et al. (1995), O'Guinn and Faber (1989), and Rindfleisch, Burroughs and Denton (1997). In the light of the above discussion, it is suggested that the intention of the consumer to spend the savings will be positively associated with his/her level of compulsive shopping behavior, leading to the next hypothesis in the second stage of the coupon redemption process:

H2b: The consumer's intention to spend the savings from coupon redemption is positively associated with the compulsive shopping trait.

Psychology and marketing literatures also lend support to the phenomenon that coupons lead to arousal, which is generated by the prospect of savings. From a psychological perspective, following the Mehrabian-Russell (1974) model, Donovan et al. (1994) suggest that a feeling of savings is positively associated with the individual's level of arousal. Similar findings are reported by Sherman and Smith (1987), who argue that mood constitutes a very important set of affective factors responsible for influencing the behavioral outcome of the individual. In other words, from a psychological perspective, there is considerable evidence to argue that a feeling of savings engendered by the coupon leads the consumer to spend more time and money on that shopping trip.

From a marketing perspective, the feeling of savings from coupon redemption has been found to be associated with several outcomes such as an increase in purchase, increase in the number of unplanned purchases on a specific shopping trip or hike in discretionary spending of budgeted items by the consumer. For example, Heilman, Nakamoto and Rao (2002) argue that when a consumer finds a surprise coupon (at the aisle, checkout counter or as a peel-off), there is substantial possibility that s/he will make more unplanned purchases leading to an increase in the size of the overall shopping basket. As indicated earlier, the authors also hypothesize that under these circumstances, the consumer might purchase more of a "treat", a product on sale, or another product that is primed by the promoted product. This phenomenon of increased spending due to an unanticipated gain has also been corroborated by Arkes and colleagues (1994). In light of this discussion, the individual's intention to spend the savings from coupon redemption is positively associated with the degree of arousal or excitement generated by the coupon, resulting in the next hypothesis:

H2c: The consumer's intention to spend the savings from coupon redemption is positively associated with the feeling of arousal generated by the coupon.

Finally, whether the consumer spends or keeps the savings from coupon redemption will also be influenced by the savings propensity of the individual. Economic theory suggests that as the individual's real income increases, his/her savings increases less than proportionately (Kreps 1990, Varian 1999). In other words, when a consumer perceives some savings from coupon redemption, s/he is more likely to spend rather than keep the savings. This phenomenon of diminishing savings propensity is the basis for the last hypothesis in the second stage of coupon redemption process:

H2d: The consumer's intention to spend the savings from coupon redemption is negatively associated with the savings propensity.

In terms of spending perceived savings from coupon redemption, the customer has more than one option available. As discussed in the following few sections, the purchase decision of the consumer depends on several factors, such as the relative strengths of devaluation effect and income effect (Barat 2003, 2004), diminishing returns from higher volumes of purchase (Böhm-Bawerk 1973; Kreps 1990), switching propensity (Alvarez and Casielles 2005; Gedenk and Neslin 1999) and the novelty-seeking (Sproles and Kendall 1986; Sproles and Sproles 1990) traits of the consumer. The factors affecting each of the purchase decision options are discussed separately.

Stage 3, Option 1: Buy more of the promoted product

As discussed earlier, the coupon leads to both an income effect due to the perception of savings and devaluation effect due to the perception of negative attitude towards the promoted product (Kreps 1990; Parkin 1996). Therefore, the consumer will intend to buy more of the promoted product only if income effect is greater than devaluation effect. As such, the following can be hypothesized:

H3a**:** The consumer's intention to spend savings from coupon redemption to buy more of the promoted product is positively associated with the relative strength of perception of savings over that of devaluation due to coupon redemption (or, income effect—devaluation effect).

However, microeconomic theory suggests that beyond a certain level, the more a product is consumed, the lower is the return/utility from consuming additional units of the product. This is referred to as the law of diminishing marginal returns and is firmly grounded in microeconomic theory (Kreps 1990; Varian 1999). In other words, the

individual will purchase more of the promoted product only as long as s/he does not reach the level of saturation; beyond that level, the individual will cease to purchase any more units of that product, despite the coupon. Hence, it is hypothesized:

H3b: The consumer's intention to spend savings from coupon redemption to buy more of the promoted product is negatively associated with the amount of the promoted product that the individual already possesses.

Stage 3, Option 2: Buy complementary product

Complementary products are those that are usually purchased or consumed simultaneously for example, barbeque meat and barbeque sauce, tea and sugar or creamer. Economics literature suggests that consumers buy products and redeem coupons for utilitarian (Chandon, Wansink and Laurent 2000; Chiang 1995; Holbrook and Hirschman 1982; Mowen and Minor 2001) as well as hedonistic (Chandon, Wansink and Laurent 2000; Ferraro, Shiv and Bettman 2005; Holbrook and Hirschman 1982) purposes. As such, when the consumer does not possess the necessary complementary products to accompany the promoted product, then s/he will most likely buy more of the complementary product to enhance his/her consumption-enjoyment of the promoted product. Therefore, the intention of the individual to spend the savings from coupon redemption to purchase more of complementary products is an increasing function of the level of the promoted product that the individual already has. This line of reasoning is the basis for the next hypothesis:

H3c: The consumer's intention to spend savings from coupon redemption to buy a complementary product is positively associated with the amount of the promoted product that the individual already has.

Moreover, along the line of reasoning under the first option, the intention to spend the savings on a complementary product is an increasing function of the positive difference between the income effect and devaluation effect (Kreps 1990, Mansfield and Yohe 2000; Parkin 1996); therefore the next hypothesis can be framed as follows:

H3d**:** The consumer's intention to spend savings from coupon redemption to buy a complementary product is positively associated with the relative strength of perception of savings over that of devaluation due to coupon redemption (or income effect—devaluation effect).

Stage 3, Option 3: Buy substitute product

Another option for the consumer may be to purchase products of a competing brand. By and large, convenience grocery products (milk, juice, snacks) are very similar to one another with regard to features, benefits and price, and are referred to as "substitute" products in economics literature (e.g. Kellogg's All Bran® vs. Post's Raisin Bran®, or frozen beans vs. canned beans). The consumer's choice behavior for utilizing the savings depends on the relative strengths of income effect and devaluation effect (Kreps 1990, Mansfield and Yohe 2000; Parkin 1996). For example, if the devaluation effect due to the coupon gets higher (but still remains below his/her level of income effect), then the negative perception of the individual towards the promoted product increases. Consequently, the intention to purchase a substitute product increases. Therefore, the following can be suggested:

H3e: The consumer's intention to spend savings from coupon redemption to buy a substitute (of the promoted) product is positively associated with the perception of devaluation of the promoted product.

There exists a substantial volume of literature which focuses on the role of coupons in influencing brand–related behavior of consumers. Specifically, academics

argue that coupons induce brand switching among consumers (Gedenk and Neslin 1999; Neslin and Clarke 1987; Neslin 1990; Shoemaker and Tibrewala 1985). In the present context, it can be suggested that consumers with high switching propensity are more likely to purchase the competitor's brand/product (the substitute) with the savings from coupon redemption. As such, the next hypothesis states:

H3f: The consumer's intention to spend savings from coupon redemption to buy a substitute (of the promoted) product is positively associated with the switching behavior.

Stage 3, Option 4: Buy novel product

Novelty-seeking has been shown to be one of the prominent behavioral traits of consumers, specifically those "who appear to like new and innovative products and gain excitement from seeking out new things" (Sproles and Sproles 1990; p. 137). According to Sproles and Sproles (1990), such consumers may have passive and accepting learning characteristics, where the consumer's focus is more on buying a novel product than anything else. In the present context, if a consumer is high on the novelty-seeking trait, then s/he may intend to spend the savings from coupon redemption on neither the promoted product nor a related (substitute or complementary) product but on an unrelated or novel product. This is the motivation for the next hypothesis:

H3g: The consumer's intention to spend savings from coupon redemption to buy a novel product is positively associated with the novelty-seeking trait.

As is the case with the other spending options of the consumer, here the intention to buy an unrelated product is also a positive function of the income effect (Kreps 1990; Varian 1999), leads into the last hypothesis:

H3h: The consumer's intention to spend savings from coupon redemption to buy a novel product is positively associated with the perception of savings.

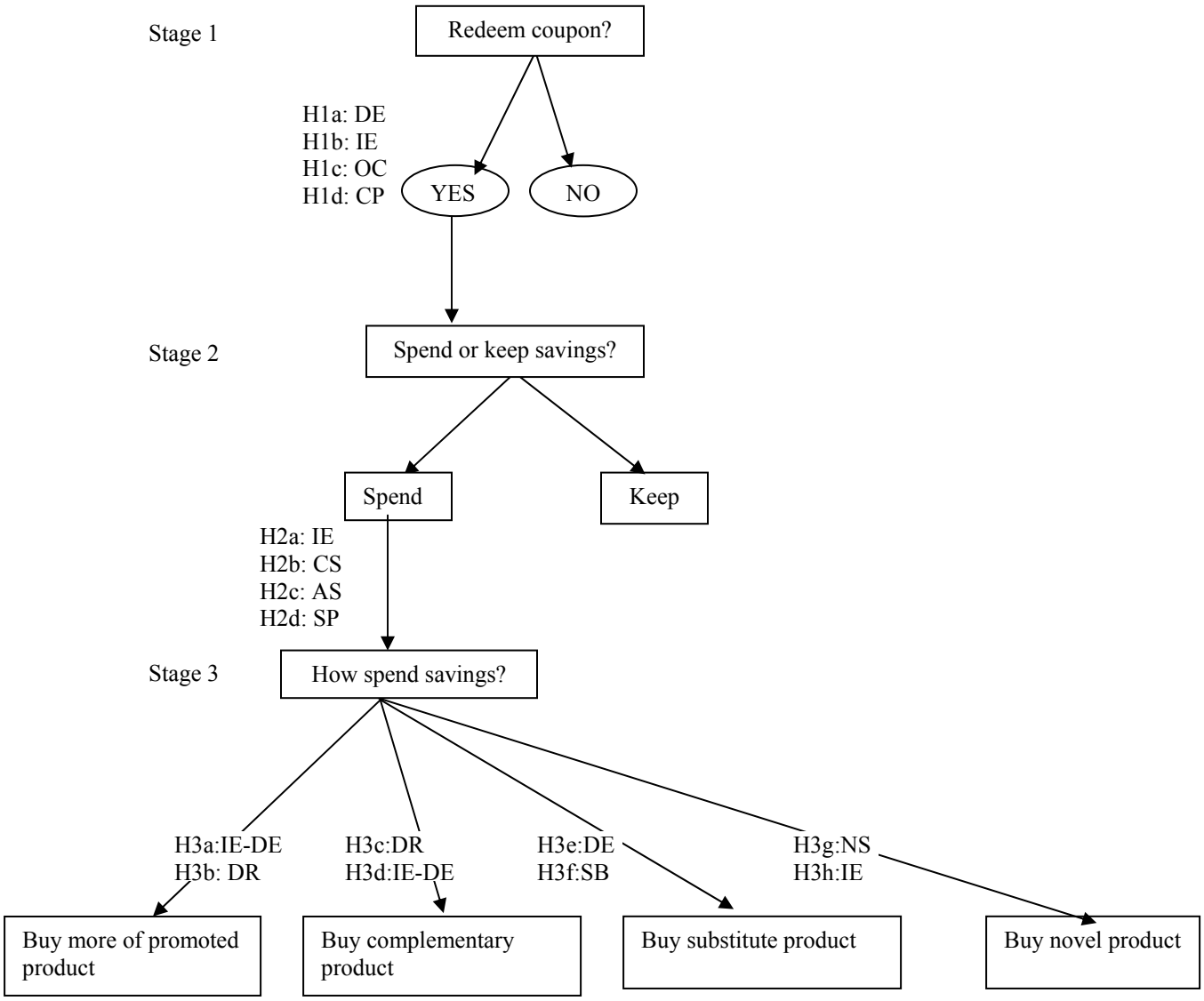
The above hypothesized relationships are illustrated in Figure 3.

Summary

Chapter 2 introduced the reader to the substantial volume of literature on coupons from the psychological, economic and marketing perspectives. Factors affecting as well as consequences of coupon redemption were revisited, and variables influencing the coupon redemption process at each stage of the conceptual model were delineated and hypotheses as their likely relationships were developed. This lays the groundwork for describing the methods and measurements for the current study in Chapter 3.

FIGURE 3

Set of Hypotheses for the Current Research



AS=arousal-seeking, CS= compulsive shopping, CP=coupon proneness, DE=devaluation effect, DR=diminishing returns, IE=income effect, NS=novelty-seeking, OC=opportunity cost, SB=switching behavior and SP=savings propensity

CHAPTER 3

METHODS AND MEASUREMENT

Introduction

This chapter describes the research method used for testing the hypothesized relationships. First, the process of developing measurement scales and data analyses (for both scale purification and hypotheses testing) plans are introduced. Then, the instrument design and pilot study procedures are described, which are followed by a discussion of sampling and data collection procedures for the main study. The final section of this chapter presents the research context with respect to product category.

Scale Development

A literature review of the arousal-seeking construct revealed few studies (Baker, Levy and Grewal 1992; Dabholkar and Bagozzi 2002; Mehrabian and Russell 1974; Shoham, Rose and Kahle 1998). However, only one of those studies (Mehrabian and Russell 1974) was deemed appropriate for the current purpose. After consultation with the author's committee members and other academics in the field, eight items predicting the construct of arousal-seeking from this study were adapted to be included in the pilot instrument.

The novelty-seeking construct has also been applied in several studies (Hirschman 1980; Mehrabian and Russell 1974; Sproles and Kendall 1986; Sproles and Sproles 1990;

Venkataraman 1991) of which, only the one by Mehrabian and Russell (1974) was considered to be the most appropriate. Consequently, all seven items predicting the construct of novelty-seeking were adapted from this study. However, reasonable modifications had to be made to both of the arousal-seeking and novelty-seeking scale items to fit the current context.

The construct of compulsive shopping has been used in a few studies (Faber and O'Guinn 1989, 1992; Faber et al. 1995; O'Guinn and Faber 1989). Six items were adapted from the study by Faber and O'Guinn (1989). Minor modifications were made to the scale to suit the current study.

Research on the construct of switching behavior yielded several studies, such as those by Ailawadi, Lehmann and Neslin (2001), Babakus, Tat and Cunnigham (1988), Gedenk and Neslin (1999), Neslin and Clarke (1987), Raghubir (1998) and Raju (1980). For the present purpose, five items were adapted from the study by Raju (1980).

Finally, as far as borrowed scales are concerned, all eight items measuring coupon-proneness were adapted from a study by Lichtenstein, Netemeyer and Burton (1990).

Six items measuring income effect and four items measuring devaluation effect were modified from the scale items used by Barat (2003, 2004).

Very few studies pertaining to opportunity cost were found in the literature (Babakus et al. 1988; Bonnicci et al. 1996; Shimp and Kavas 1984). Based on these studies, a pool of 15 items was created for the pilot study. After five rounds of revision

and consultation with the committee members and relying on relevant economics literature, eight items were retained as a measure for the construct of opportunity cost.

After consulting economics literature and other academics familiar with the field, all seven items measuring diminishing returns were developed for the purpose of the current study. Finally, four items measuring savings propensity were retained from the initial pool of eight, after seven rounds of consultation with the author's committee.

Instrument Design

The draft of the instrument for the pilot study (Appendix B) was refined and revised about 10 times after a detailed consultation with the author's committee members and after reviewing relevant literature as cited in the earlier chapters. Other than demographics-related questions, the instrument consisted of items purported to measure each of the constructs related to the hypotheses for the current study.

Pilot Studies

A pilot study was conducted in the summer of 2006. Students (n=154) at a large university located in the Dallas-Fort Worth area in Texas voluntarily participated in this study. Analysis of the data showed acceptable factor structure (i.e. satisfactory main loadings and very few cross-loadings) and reliability scores for the constructs of income effect, devaluation effect, compulsive shopping, opportunity cost, coupon proneness, switching behavior, savings propensity and diminishing returns.

However, the factor structures for arousal-seeking and novelty-seeking were problematic. Not only were the Alpha values and factor loadings for these two constructs very low, but also several items were loading on the wrong factors. Even though items for both these constructs were borrowed (Mehrabian & Russell 1974), this anomaly was not entirely unexpected because 1) past researchers have used items interchangeably between arousal-seeking and novelty-seeking constructs (Venkataraman and Price 1990; Venkataraman 1991) and 2) intuitively speaking, any event which results in a feeling of "novelty" is also likely to lead to arousal, which is likely to result in a cross-loading of the original items.

In order to address this problem, appropriate modifications were made in the original scale from the first pilot study (including dropping one item from compulsive shopping due to consistently low loading), especially in the items for arousal-seeking and novelty-seeking. Consequently, a second pilot study was conducted in September of 2006 on only the items for compulsive shopping, savings propensity, diminishing returns, novelty-seeking, arousal-seeking and switching behavior on a different sample of 95 students at the same university. Results showed similar factor loadings as pilot study 1, (strong for diminishing returns, compulsive shopping, savings propensity and switching behavior and weak for novelty-seeking and arousal-seeking).

After consulting with faculty at the author's university and taking into consideration suggestions by PhD students, existing items pertaining to novelty-seeking and arousal-seeking were modified, and a new item was added to the construct of arousal-seeking.

A third pilot study was conducted using only the revised novelty-seeking and arousal-seeking items. The sample of 95 students for the third pilot study was different from those of the earlier pilot studies. The results were noticeably better than the first two studies in terms of factor structure, even though alpha scores for novelty-seeking and arousal-seeking were low (0.59 and 0.62 respectively). Looking at this trend, it was expected that reliability and consistency figures would improve considerably with an increase in sample size for the main study. As such, the final set of scale items included: nine items for arousal-seeking, seven items for each of compulsive shopping and coupon proneness, four items for devaluation effect, seven items for diminishing returns, six items for income effect, seven items for novelty-seeking, eight items for opportunity cost, four items for savings propensity and five items for switching behavior. For all of the above constructs, responses were measured using a five-point semantic differential scale, anchored between "1 = Strongly Disagree" and "5 = Strongly Agree". A detailed list of the constructs, their sources, description, number of items included and a sample item from each construct is presented in Appendix C.

Main Study

The text of the instrument for the main study is provided in Appendix D. The author made every effort to purchase respondent contact lists from commercial firms. During the course of this process, several problems arose. First, the author was unable to receive any assurance either about the authenticity of the contacts or the response rate. Secondly, the author's previous experience working with purchased electronic datasets

did not yield encouraging results, primarily owing to invalid and obsolete email addresses (only a 5.4% response rate). Finally, purchasing the dataset was prohibitively expensive. As such, data was collected using Internet-based surveys, using a convenience snowball sample, which is often used in social science research (Huang and Oppewal 2006; Mehrabian and Russell 1974).

A total of 350 undergraduate students (enrolled in the author's classes) at a large university in the Dallas-Fort Worth area in Texas were asked to contact upto 10 of their acquaintances to participate in the Internet-based survey (text in Appendix D). The survey was designed for this study using the Websurveyor® software. In an effort to reach as diverse a population as possible and still maintain the integrity of the data--students were instructed to keep the following screening criteria in mind when recruiting respondents: they a) could not be enrolled at the student's university, b) must have a part-time or full-time job, c) must be familiar with grocery coupons, d) could not be from the same household and e) must be geographically well-dispersed within the Dallas-Fort Worth area in Texas.

Students were awarded two bonus points for each completed response received. In order to avoid any implied sense of coercion, students were also offered an alternative to doing the survey. They were asked to respond to five questions, which tested the student's knowledge of the principles of marketing and principles of consumer behavior. However, all students participated in the first option. The online data collection website was made available to respondents for a period of three weeks during which, a total of 2,431 usable responses were received using this method. Given that the maximum

number of responses possible was 3,500 (if each student had succeeded in getting their quota of 10 respondents), the current method resulted in an effective contact rate of 69.45%. Even though this is technically not the same as response rate, this 69.45% figure does provide a surrogate measure of response rate.

Research context—location and focal product category

The data was collected from residents of the Dallas-Fort Worth area in Texas, and the focal product category selected for this study is grocery products, which is universally consumed by all sections of the population. Moreover, coupon distribution is most widespread in this product category. Out of all coupons distributed in 2002, as much as 75.7% were redeemed in grocery stores. The top ten items in terms of coupon redemption in 2002 were condiments, gravies, frozen prepared foods, prepared foods and cereals (Pinck and Schremp 2006). A number of authors have used grocery products as the context of their studies on coupons (Barat and Paswan 2005; Davis, Inman and McAlister 1992; Dodson, Tybout and Sternthal 1978; Dong and Kaiser 2005; Heilman, Nakamoto and Rao 2002; Leclerc and Little 1997; Neslin 1990; Nevo and Wolfram 2002; Swaminathan and Bawa 2005; Vermeir and Kenhove 2005; Walters and Mackenzie 1988; Walters and Jamil 2003).

For the current study, the basket of grocery items chosen consisted of milk, bread, snacks (chips, munchies, and cookies), cheese, juice, meat, frozen ready-to-eat food and soft drinks. These products are the most frequently purchased items and for which coupons are most commonly available (Coupon Council 2005). For example, some of the most popular web sites for electronic coupons such as [www.coolcoupons.com] and

[www. coupons.com] present the following data on grocery coupons available for each of these products (number of coupons in parentheses): snack foods (18,980), frozen foods (14,948), bread (6,396), beverages and related (5,993), cereal (4,104), sauces (4,083), meat department (3,572), pasta (2,648), and canned vegetables (556) (Barat and Paswan 2005).

Data coding

During the data coding stage, care was taken to ensure that the final dataset was free from coding errors and would be suitable for further statistical analysis and interpretation. As seen in Appendix D, apart from the name of the grocery store and the "other" category of coupons redeemed by the respondent (text-based input), all other data was coded in numerical format. Furthermore, each variable was coded so that the maximum possible information was available during this stage. A "codebook" was maintained and followed outlining the special procedures. After the data coding process, the completed dataset was cleaned and made ready for final analysis.

CHAPTER 4

ANALYSES AND RESULTS

This chapter first provides a description of the sample, followed by a discussion of the factor structure. The test-results for assessing the reliability and validity of the construct measures are presented. The last section provides the results of the multiple regression analyses conducted for testing the hypotheses.

Data was collected from adult residents residing in the Dallas-Forth area of Texas through Internet-based surveys using a convenience snowball sample. As mentioned earlier, a total of 2,431 usable responses were received through this method.

The Websurveyor® program automatically records the responses on a spreadsheet. After the data collection was completed, all items were checked for normality, using measures of skewness, kurtosis, closeness among mean, median and mode (Appendix E), and the shape of the normal curve. These indicators were found to conform to acceptable standards (skewness measures were between -1 and +1 and kurtosis values were between -1.19 and -0.01), which provided reasonable assurance that the data was normally distributed (Curran, West and Finch 1996).

Sample Characteristics

Demographic descriptives

Descriptive statistics for sample demographic variables are provided in Table 1 alongside relevant 2005 Dallas County area demographic data. The sample has a greater percentage of

women (65.40%), which is different from that of Dallas County (almost an equal representation of the two genders). The sample was evenly distributed across different age-groups. The sample median age of (23-30) years is slightly lower than the Dallas County median age of 32.4 years. As to marital status of the sample, the highest percentage (42%) of respondents is married, followed by singles (37%)—a pattern similar to that of Dallas County. The median household size of the sample is close to two. As seen in Table 1, the sample percentage figures for household sizes of two and four or more closely resemble the corresponding Dallas County percentages. The breakup of the sample by monthly household income categories is very similar to the Dallas County patterns (except for the $3,001-$4,000 category). The Dallas County mean monthly income of $3,549 also falls within the sample mean monthly income range of $3,000-$4,000.

Nearly 80% of the respondents work part-time or full-time, while the remaining 20.09% are either part or full-time students (respondents were asked to select only one option). Percentage of respondents living in rented units (40%) and private units (60%) closely resemble those of Dallas County percentages. Finally, with respect to ethnicity, about 16% are African-American (21% for Dallas County), 13% Asian (4% for Dallas County) and 15% of Hispanic origins (36% for Dallas County) and more than 50% of the respondents are White (38% for Dallas County).

Geographically, respondents come from more than 600 zip code areas. As seen in Table 2, a grouping of respondents based on the first 3 digits of their zip codes indicates that the highest concentration (32%) was from the area whose zip code starts with 760, 17% came from the areas having zip codes starting with 750, 12% from areas represented by 751-2 as the first

three digits of their zip code, 13% from areas having first three digits of the zip code as 761, while the rest of the zip code areas accounted for 26% of the respondents. This provides evidence of good coverage of the Dallas-Fort Worth area by the sample.

Grocery shopping and coupon redemption

Referring to Table 3, Wal-Mart® was the most popular shopping location, mentioned by 31% of the sample; Kroger® was chosen by 20% of the respondents, Albertsons® by 11% of the respondents, while each of the other stores accounted for less than 10% of the respondents. This indicates that respondents use an array of grocery stores for their grocery purchases. Respondents spent an average of $80 per week on groceries, which compares favorably with the Dallas-Fort Worth area average (in the absence of Dallas County data) of $74, for the year 2004-5 (US Census Bureau, as quoted by Newswire).

About 60% of the sample shop for groceries at least once a week (Table 4), and 76.03% of respondents redeem at least one coupon on every shopping trip (Table 5). About 66% of the respondents are likely to redeem a coupon at least sometimes, while about 9% always redeem coupons (Table 6). Finally, about 51% of respondents use coupons previously collected from magazines, newspapers, mailings, door-knob fliers, or those printed off the Internet and redeemed at the store (Table7).

TABLE 1

Sample Demographic Descriptives Compared with Dallas County Data

Characteristics	*N*	Frequency	Valid Percent	
			Sample	Dallas County
Gender	2367			
Male		819	34.60	50.3
Female		1548	65.40	49.7
Age group*	2406			
16-23		562	23.36	12
23-30		687	28.55	14.3
31-45		602	25.02	25
45 and above		555	23.07	29.7
Marital Status	2398			
Single		931	36.75	29.8
Married		1077	42.52	51.3
Divorced		173	6.83	10.9
Widowed		36	1.42	4.7
Living together		181	7.15	NA
Household size	2403			
1		409	17.02	28.1
2		739	30.75	29.3
3		511	21.27	16.0
4 or more		744	30.96	26.7
Monthly Income	2382			
<= 1000		174	7.30	8.8
1001-3000		714	29.97	30.8
3001-4000		512	21.49	16.2
4001-6000		432	18.14	16.9
6001-8000		223	9.36	10.8
>= 8001		327	13.73	15
Profession	2380			
PT student		122	5.13	N/A
FT student		356	14.96	N/A
PT working		348	14.62	N/A
FT working		1554	65.29	N/A
Housing	2388			
Rented apartment/house		957	40.08	44.1
Private apartment/house		1431	59.92	55.9
Ethnicity	2391			
African-American		377	15.77	20.9
American-Indian		27	1.13	0.6
Asian		313	13.09	4.4
Hispanic		363	15.18	36.4
Multiracial		109	4.56	1.1
White		1202	50.27	37.6

* Respondents were asked their birth-year

Table 2

Geographic Distribution

Zip codes (first 3 digits)*	Frequency	% in Sample
750 (Carrolton, Frisco, Garland, Irving, Lewisville, Richardson)	408	16.99
751-2 (Dallas, Ennis, Greenville, Kauffman, Rockwall, Waxahachie)**	288	11.99
760 (Arlington, Corsicana, Cleburne, Dallas, Ennis, Glen Rose, Mesquite, Waxahachie)	768	31.98
761 (Arlington, Corsicana, Cleburne, Dallas, Ennis, Fort Worth, Glen Rose, Mesquite, Waxahachie)	312	12.99
Other	625	26.05
Total	2401	100

* derived from the USPS AIS Zip+4 Raw Data Product, which may be different from actual zip code mailing address. This is the most accurate free USPS zip code map available at www.maps.huge.info, accessed April 20, 2007. ** 751, 752 spread out over same geographical areas

TABLE 3

Grocery Shopping Characteristics

	N	Frequency	Valid Percent
Grocery Store	2431		
Albertsons		271	11.14
HEB		135	5.55
Kroger		487	20.03
Target		116	4.77
Tom Thumb		202	8.30
Wal-Mart		755	31.05
Other		465	19.12
Weekly grocery bill	2404		
30 or less		165	6.86
Between 30 and 70		603	25.08
Between 70 and 90		576	23.96
Between 90 and 110		479	19.94
Between 110 and 130		320	13.31
130 or more		261	10.85

TABLE 4

Frequency of Grocery Shopping

Valid *N*=2394	Valid Percent
Once every 3 weeks	11.45
Once every 2 weeks	29.45
Once a week	40.31
Twice a week	14.16
3 or more times a week	4.63
Total percent	100

Median, mode=once a week

TABLE 5

Number of Coupons Redeemed per Trip

Valid *N*=2403	Valid Percent
0	23.97
1	21.72
2	18.23
3	14.94
4	7.07
5	4.37
More than 5	9.70
Total percent	100

Median between 1 and 2; mode=0

TABLE 6

Likelihood of Redeeming Coupon

Valid *N*=2396	Valid Percent
Never	11.81
Rarely	21.87
Sometimes	34.77
Almost always	22.50
Always	9.06
Total percent	100

Mean=2.95, Median=3; Mode=3; SD=1.13; Skewness=- 0.02; Kurtosis=- 0.69; responses anchored between strongly disagree (1) and strongly agree (5)

TABLE 7

Types of Coupons Redeemed

	Valid Percent	
Valid *N*=2431	No	Yes
Previously collected	48.62	51.38
In-store ads	65.65	34.35
Surprise coupons	55.53	44.47
Others	94.82	5.18

Mode=previously collected

Reliability of Measures and Scale Validity

Student respondents (20.09% of the entire sample) are excluded from all subsequent analysis because this segment of the population is not known to be particularly responsive to coupon-based promotions. The resulting sample (N=1902), therefore, consists only of respondents who work part-time and full-time (non-students).

All items predicting devaluation effect, diminishing returns, income effect, opportunity cost and savings propensity were measured on a five-point scale anchored between Strongly

Disagree (1) and Strongly Agree (5). The factor analysis was conducted in accordance with the different stages of the conceptual model (please refer to Figure 3 in Chapter 2). In stage 1 (which pertains to the decision whether the individual will redeem the coupon or not), the scale items that were developed for the purpose of the current study (income effect, devaluation effect and opportunity cost), were subject to exploratory factor analysis (principal component extraction with varimax rotation method). Only two items showed main loadings of less than 0.50 (0.49 and 0.47), and all items loaded onto the scales that those were designed to predict (Table 8). Only one item* intended to measure opportunity cost cross-loaded on the construct of devaluation effect. It was, however, decided to retain that item in the final factor structure because of the importance of the item in predicting the respective scale, neither was there any notable increase in Alpha score if that item were dropped from the factor structure.

The KMO measure, which indicates whether there are adequate number of items explaining each factor, was 0.909; in addition, the Bartletts' test, which indicates if the variables are correlated enough for a factor analysis to be conducted, were found to be significant. These measures indicate that it was acceptable to conduct factor analysis on the data (Leech, Barrett and Morgan 2005). Reliability measures (Cronbach's alpha) were found to be at least 0.69, which was above the acceptable limit of 0.65 (Nunnally 1978). Items predicting opportunity cost explained 23% of the total variance, items predicting income effect 21% and items predicting devaluation effect explained 13.5% of the total variance in the model.

Next, factor analysis was conducted on stage 2 and stage 3 scale items that were developed for the current study (e.g. savings propensity and diminishing returns).

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*Only people who have nothing more important to do collect and redeem coupons

TABLE 8

Rotated Component Matrix: Stage 1 Proprietary Scales

Items	Components 1	2	3	Labels
D9: I can utilize the time/effort spent on collecting and redeeming grocery coupons in doing other activities	0.75			Opportunity Cost
D15: I am too busy to collect grocery coupons	0.74			
D4: Collecting a grocery coupon is too troublesome for what it is worth	0.71			
D18: Time spent on collecting grocery coupons is not worth the money saved	0.70			
D12: There are things more important than redeeming grocery coupons	0.69			
D7: I do not think that keeping track of savings from grocery coupon redemption is worth the effort	0.68			
D23: Savings from coupon redemption are too trivial to perceive	0.62			
D25: Only people who have nothing more important to do collect and redeem coupons	0.49		0.49	
D10: When I redeem a grocery coupon, I feel I have more money left in my pocket		0.79		Income Effect
D5: When I see a grocery coupon, I feel I will pay less for my purchases		0.76		
D1: When I see a grocery coupon, I feel that I am getting a good deal		0.76		
D21: When I see a grocery coupon, I feel that it will save me money		0.75		
D13: When I see a grocery coupon, I feel I have more disposable cash left in my pocket		0.73		
D17: When I see a grocery coupon, I feel I will be able to buy more		0.67		
D6: If I see a grocery coupon, I feel that the product must not be very good, otherwise it should have sold just as well without the coupon			0.76	Devaluation Effect
D20: When I see a grocery coupon, I feel that the value of the brand/product is reduced			0.75	
D2: When I see a grocery coupon, I feel that the retailer or manufacturer wants to get rid of the overstock for that product			0.66	
D16: When I see a grocery coupon, I feel 'cheated', because the last time I bought this product without the coupon, I paid a higher price			0.47	
Cronbach's Alpha	0.86	0.85	0.69	
Factor Mean	2.95	3.36	2.36	
Factor SD	7.35	5.28	2.83	
% variance explained	22.87	21.08	13.49	

Scale Anchor: 1= Strongly Disagree; 5= Strongly Agree

Only two items had main loadings of less than 0.50 (i.e. 0.48 and 0.47), and all items loaded onto the factors they those were designed to predict (Table 9). The KMO measure was 0.790 and Bartletts' test was found to be significant, indicating that it was acceptable to conduct factor analysis on the data. Reliability measures (Cronbach's alpha) were found to be above the

acceptable limits of 0.65. Items predicting diminishing returns explained 23% and items predicting savings propensity explained 22% of the total variance in the model. Item-total

TABLE 9

Rotated Component Matrix: Stages 2 and 3 Proprietary Scales

Items	Components		
	1	2	Labels
E11: I do not buy too much of the same product, because doing so is inconvenient for me	0.71		Diminishing Returns
E9: I do not buy anything beyond what I can consume	0.63		
E3: I do not buy more of something if I have enough of the item(s)	0.62		
E6: I do not buy anything beyond what I can store	0.61		
E18: If I buy more than what I need, it goes to waste	0.60		
E14: I do not buy too much of the same thing(s) because I get bored of consuming those	0.52		
E16:I do not buy too much of the same product(s), because doing so forces me to consume more than what I would normally do	0.48		
E12:If I save money from coupons while shopping, I put it in a 'discretionary spending' pool		0.83	Savings Propensity
E8: If I save money from coupons while shopping, I put it in an extra money pool permanently		0.83	
E2: If I save money from coupons while shopping, I put it away so that I can spend it in the future		0.78	
E5: If I save money from coupons while shopping, I do not spend it right away		0.47	
Cronbach's Alpha	0.72	0.79	
Factor Mean	3.10	2.29	
Factor SD	5.29	3.06	
% variance explained	23.36	22.04	

Scale Anchor: 1= Strongly Disagree; 5= Strongly Agree

correlation were above 0.40 (except for one item each, predicting devaluation effect, diminishing returns and savings propensity), as shown in Table 10, indicating acceptable levels (Jayanti and Burns 1998) of convergent validity for the proprietary scales of devaluation effect, diminishing returns, income effect, opportunity cost and savings propensity**.** Additionally, as shown in Table 12**,** correlations between each pair of scales were lower than the reliability of the corresponding

individual scales, suggesting acceptable levels of discriminant validity (Gaski and Nevin 1985) for all the proprietary scales.

TABLE 10

Convergent Validity Test Results

Scale Items	Corrected Item-total Correlation	Cronbach's Alpha
1. **Arousal-seeking**		0.80
F1: I like doing things just for the fun of it	0.48	
F4: I like to touch and feel a sculpture	0.40	
F6: Acting spontaneously makes life more enjoyable	0.56	
F9: I like surprises	0.53	
F12: I am attracted to unexpected experiences	0.58	
F14: I like to look at pictures that are puzzling in some way	0.49	
F16: I prefer people who are emotionally expressive	0.40	
F19: I would be particularly attracted to an art display featuring many interpretations of a single theme	0.44	
F21: I like doing things out of the ordinary	0.59	
2. **Coupon proneness**		0.81
D11: I enjoy using grocery coupons, regardless of the amount I save by doing so	0.60	
D22: Beyond the money I save, redeeming grocery coupons gives me a sense of joy	0.61	
D14: I enjoy clipping grocery coupons out of the newspaper/catalog	0.57	
D24: I am more likely to buy grocery brands for which I have a coupon	0.61	
D3: Redeeming grocery coupons makes me feel good	0.53	
D8: I have favorite grocery brands, but most of the time I buy a brand I have a coupon for	0.54	
D19: Grocery coupons have caused me to buy products I normally would not buy	0.33	
3. **Compulsive shopping**		0.73
E1: I often buy product(s) even though I do not need it/them	0.51	
E4: I often buy item(s) even though I cannot afford them	0.53	
E7: I buy some item(s) in order to make myself feel better	0.48	
E10: I often buy product(s) simply because they are on sale	0.43	
E13: I occasionally go on a buying binge	0.51	
E15: I feel anxious or nervous on days that I do not go shopping	0.37	
E18: I feel that having more money would solve most of my problems	0.27	

(table continues)

TABLE 10 (continued)

Scale Items	Corrected Item-total Correlation	Cronbach's Alpha
4. **Devaluation effect**		0.69
D2: When I see a grocery coupon, I feel that the retailer or manufacturer wants to get rid of the overstock for that product	0.48	
D6: If I see a grocery coupon, I feel that the product must not be very good, otherwise it should have sold just as well without the coupon	0.54	
D20: When I see a grocery coupon, I feel that the value of the brand/product is reduced	0.49	
D16: When I see a grocery coupon, I feel 'cheated', because the last time I bought this product without the coupon, I paid a higher price	0.29	
5. **Diminishing returns**		0.72
E11: I do not buy too much of the same product, because doing so is inconvenient for me	0.53	
E9: I do not buy anything beyond what I can consume	0.45	
E3: I do not buy more of something if I have enough of the item(s)	0.40	
E6: I do not buy anything beyond what I can store	0.38	
E18: If I buy more than what I need, it goes to waste	0.42	
E14: I do not buy too much of the same thing(s) because I get bored of consuming those	0.41	
E16: I do not buy too much of the same product(s), because doing so forces me to consume more than what I would normally do	0.40	
6. **Income effect**		0.85
D10: When I redeem a grocery coupon, I feel I have more money left in my pocket	0.70	
D5: When I see a grocery coupon, I feel I will pay less for purchases	0.61	
D1: When I see a grocery coupon, I feel that I am getting a good deal	0.64	
D13: When I see a grocery coupon, I feel I have more disposable cash left in my pocket	0.66	
D21: When I see a grocery coupon, I feel that it will save me money	0.65	
D17: When I see grocery coupon, I feel I will be able to buy more	0.56	
7. **Novelty-seeking**		0.71
F2: I like to experience novelty and change in my daily routine	0.50	
F7: I am always seeking new ideas and experiences	0.51	
F13: I like to continually change activities	0.50	
F15: When things get boring I like to find some new and unfamiliar experience	0.47	
rev_F10: I do not like meeting people who have new ideas	0.24	
rev_F18: I prefer a routine way of life to one full of change	0.38	
rev_F20: I prefer a routine way of life to an unpredictable one	0.38	

(table continues)

TABLE 10 (continued)

Scale Items	Corrected Item-total Correlation	Cronbach's Alpha
8. **Opportunity cost**		0.86
D9: I can utilize the time/effort spent on collecting and redeeming grocery coupons in doing other activities	0.63	
D15: I am too busy to collect grocery coupons	0.66	
D4: Collecting a grocery coupon is too troublesome for what it is worth	0.66	
D18: Time spent on collecting grocery coupons is not worth the money saved	0.68	
D12: There are things more important than redeeming grocery coupons	0.45	
D7: I do not think that keeping track of savings from grocery coupon redemption is worth the effort	0.59	
D23: Savings from coupon redemption are too trivial to perceive	0.62	
D25: Only people who have nothing more important to do collect and redeem coupons	0.55	
9. **Savings propensity**		0.79
E2: If I save money from coupons while shopping, I put it away so that I can spend it in the future	0.57	
E5: If I save money from coupons while shopping, I do not spend it right away	0.35	
E8: If I save money from coupons while shopping, I put it in an extra money pool permanently	0.64	
E12: If I save money from coupons while shopping, I put it in a 'discretionary spending' pool	0.65	
10. **Switching behavior**		0.78
F3: Once I make a choice on which product(s) to purchase, I am likely to continue to buy it/those without considering other alternatives	0.72	
F5: I generally buy the same grocery products I have always bought	0.69	
F8: If I like a grocery product, I rarely switch from it to try something different	0.78	
F11: Once I get used to a grocery product, I hate to switch	0.79	
F17: Even though certain products have several alternatives, I always tend to buy the same thing	0.72	

Finally, the proprietary scales of devaluation effect, diminishing returns, income effect, opportunity cost and savings propensity were subject to single-item loading confirmatory factor

analysis using LISREL. Goodness of fit indices (Table 11) were found to be acceptable (Joreskog and Sorbom 1993).

Next, the adapted scales of arousal seeking (source Alpha=0.76), compulsive shopping (source Alpha=0.95), coupon proneness (source Alpha=0.88), novelty seeking (source Alpha=0.64) and switching behavior (source Alpha=0.80) were also subject to single-item loading confirmatory factor analysis using LISREL. The goodness of fit indices (Table 11) were within prescribed limits, with the exception of the novelty-seeking construct, which can be explained by the low reliability that this borrowed scale had in the original research.

TABLE 11

Goodness of Fit Indices: All Factors

Indices	X^2(df)	p-value	RMSEA[1]	NNFI[2]	CFI[3]	IFI[4]	ECVI[5]	NFI[6]	GFI[7]	AGFI[8]
Arousal Seeking	231.65 (27)	0.00	0.07	0.96	0.97	0.97	0.16	0.97	0.97	0.95
Coupon Proneness	273.93 (14)	0.00	0.10	0.93	0.96	0.96	0.17	0.95	0.96	0.92
Compulsive Shopping	142.16 (14)	0.00	0.07	0.94	0.96	0.96	0.09	0.96	0.98	0.96
Devaluation Effect	1351.80 (6)	0.96	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Diminishing Returns	284.40 (14)	0.00	0.11	0.87	0.91	0.91	0.18	0.91	0.95	0.91
Income Effect	198.44 (9)	0.00	0.11	0.95	0.97	0.97	0.13	0.97	0.96	0.91
Novelty Seeking	895.91 (14)	0.00	0.17	0.65	0.77	0.77	0.44	0.77	0.89	0.78
Opportunity Cost	171.47 (20)	0.00	0.07	0.97	0.98	0.98	0.11	0.98	0.98	0.96
Savings Propensity	22.51 (2)	0.00	0.07	0.97	0.99	0.99	0.02	0.99	0.99	0.97
Switching Behavior	23.90 (5)	0.00	0.04	0.99	1.00	1.00	0.02	1.00	1.00	0.99

[1]Root Mean Square Error of Approximation, [2]Non-Normed Fit Index, [3]Comparative Fit Index, [4]Incremental Fit Index, [5]Expected Cross-Validation Index, [6]Normed Fit Index, [7]Goodness of Fit Index, [8]Adjusted GFI

Furthermore, item-total correlations were higher than 0.40 (Jayanti and Burns 1998) except for two items predicting compulsive shopping and three items predicting novelty-seeking (Table 10). However, both these scales were adapted from prior research. Moreover, the scale of

novelty-seeking had a relatively lower Alpha score (0.64) in the original research and the goodness of fit indices in the present study were not very strong. In other words, such low item-total correlation was not entirely unexpected. As such, the results of convergent validity tests for the borrowed scales of arousal-seeking, coupon proneness, compulsive shopping, novelty-seeking and switching behavior were considered acceptable. Finally, as shown in Table 12**,** correlations between each pair of scales were lower than the reliability of the corresponding individual scales, suggesting acceptable levels of discriminant validity (Gaski and Nevin 1985).

Two additional tests were performed to check for convergent and discriminant validity among the measures of the constructs. First, bivariate correlation coefficients were computed for all items grouped by their respective factors. As shown in Appendix F-1, all bivariate correlations within each factor (shaded area) are significantly different from zero, which indicates convergent validity. Moreover, within-factor inter-item correlations were greater than most (if not all) other correlations across other factors. Correlations between pairs of items measuring the same construct were found to be higher than correlations between items measuring different constructs, which indicates acceptable levels of convergent and discriminant validity (Churchill 1979).

Confirmatory factor analysis (CFA) was performed on the independent variables for each of the three stages of the coupon redemption process (i.e. devaluation effect, income effect, opportunity cost and coupon proneness for stage 1; compulsive shopping, arousal-seeking and savings propensity for stage 2; and diminishing returns, switching behavior and novelty-seeking for stage 3), where the variables were allowed to correlate freely with one another. As the results in Appendix F-2 show, all except two of the CFA loadings had identical signs as the bivariate

Pearson correlation coefficients between each pair of respective items. All CFA loadings were also lower than the respective Cronbach's Alpha for each variable. This further corroborates that the measures have acceptable levels of discriminant validity.

Finally, the independent variables were checked for presence of outliers and influential observations (Kvanli, Pavur and Keeling 2003), and results showed no indication of such problems (Cook's $D < 1$ and leverage value < 0.03). In addition, skewness and kurtosis tests and normality curves revealed that the independent variables are at least close-to-normally distributed (Table 13).

TABLE 12

Discriminant Validity Test Results

	Arousal Seeking	Compulsive Shopping	Coupon Proneness	Devaluation Effect	Diminishing Returns	Income Effect	Novelty Seeking	Opportunity Cost	Savings Propensity	Switching Behavior
Arousal Seeking	(0.80)									
Compulsive Shopping	**0.31	(0.73)								
Coupon Proneness	**0.21	**0.36	(0.81)							
Devaluation Effect	**0.06	**0.37	**0.15	(0.69)						
Diminishing Returns	**0.18	*0.04	**0.07	**0.23	(0.72)					
Income Effect	**0.27	**0.21	**0.71	0.00	**0.12	(0.85)				
Novelty Seeking	**0.64	**0.08	*0.05	**-0.09	0.04	**0.12	(0.71)			
Opportunity Cost	**0.12	**0.16	**-0.41	**0.35	**0.24	**-0.37	-0.01	(0.86)		
Savings Propensity	**0.09	**0.30	**0.40	**0.40	**0.27	**0.27	**-0.10	**-0.07	(0.79)	
Switching Behavior	**0.19	**0.20	**0.06	**0.13	**0.21	**0.14	**-0.09	**0.21	0.02	(0.78)

numbers on diagonal represent reliability; *correlation significant at the 0.05 level (2-tailed); **correlation significant at the 0.01 level (2-tailed)

TABLE 13

Normality of Constructs Test Results

Scales	Mean	Median	Mode	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
Arousal Seeking	3.35	3.33	3.00	0.70	-0.22	0.05	0.41	0.10
Compulsive Shopping	2.72	2.71	3.00	0.81	0.08	0.05	-0.23	0.10
Coupon Proneness	2.93	3.00	3.00	0.87	-0.02	0.05	-0.31	0.10
Devaluation Effect	2.45	2.50	2.00	0.85	0.33	0.05	-0.30	0.10
Diminishing Returns	3.10	3.14	3.00	0.76	-0.08	0.05	0.04	0.10
Income Effect	3.36	3.33	3.00	0.88	-0.21	0.05	-0.22	0.10
Novelty Seeking	3.31	3.29	3.00	0.68	0.16	0.05	0.33	0.10
Opportunity Cost	2.95	3.00	3.00	0.92	0.07	0.05	-0.42	0.10
Savings Propensity	2.45	2.50	2.00	0.91	0.33	0.05	-0.42	0.10
Switching Behavior	3.29	3.40	3.00	0.84	-0.21	0.05	-0.07	0.10

Hypotheses Testing

In order to test the hypotheses for the current study, the items measuring various constructs were averaged to compute the corresponding composite scores. These composite scores were then used as independent variables in the test of hypotheses. The subsequent sections describe the results of the tests in the order of the conceptual model.

Scatter plots of the scales revealed that they could be subject to linear regression. The first multiple regression model was tested pertaining to stage 1 (Figure3, Chapter 2), with intention to redeem coupons (a single item measure) as the dependent variable and

composite scores for income effect, devaluation effect, opportunity cost and coupon proneness as the independent variables. This model captures hypotheses H1a, H1b, H1c and H1d.

The results of this analysis are presented in Table 14 and provide support for H1b ($\beta = 0.26$, *p*-value = 0.00), H1c ($\beta = -0.20$, *p*-value = 0.00) and H1d ($\beta = 0.24$, *p*-value = 0.00). However, the regression results do not provide support for H1a ($\beta = -0.02$, *p*-value = 0.30).

For the overall regression model, *F*-value is significant, suggesting that all factors explain a significant part of the variation in the model. The explanatory power of the model is acceptable ($R^2 = 0.33$, Adj. $R^2 = 0.33$). Moreover, the independent variables possessed tolerance values between 0.42 and 0.76, and variance inflation factors less than 2.37, which indicated that multicolinearity was not a concern for the purpose of multiple regression analysis (Neter, Wasserman and Kutner 1983).

Summary

H1a: The consumer's intention to redeem the coupon is negatively associated with the perception of devaluation of the promoted product due to the coupon (not supported).

H1b: The consumer's intention to redeem the coupon is positively associated with the perception of savings from coupon redemption (supported).

H1c: The consumer's intention to redeem the coupon is negatively associated with the opportunity cost of coupon redemption (supported).

H1d: The consumer's intention to redeem the coupon is positively associated with the coupon proneness of the consumer (supported).

TABLE 14

Stage 1 Hypotheses Testing Results: Intention to Redeem Coupons

Hypotheses	Independent Variables	β*	Std.β**	*t*-stat	*p*-Value	Tol	VIF***	Supp?
	(Constant)	1.7	0.13	13.35	0			
H1a	Devaluation Effect	-0.03	-0.02	-1.05	0.3	0.76	1.31	No
H1b	Income Effect	0.34	0.26	10.94	**0.00**	0.49	2.05	Yes
H1c	Opportunity Cost	-0.24	-0.20	-9.45	**0.00**	0.65	1.53	Yes
H1d	Coupon Proneness	0.30	0.24	9.10	**0.00**	0.42	2.37	Yes
F-statistic	292.47				**0.00**			
R	0.57							
R^2	0.33							
Adj. R^2	0.33							

*unstandardized beta coefficient; **standardized beta coefficient; ***variance inflation factor; Tol=tolerance level

For all the four hypotheses in stage 2 (Figure 3, Chapter 2), the dependent variable is intention to spend savings from coupon redemption (ISS), which was created by averaging the scores of four items that were designed to predict this variable. The independent variables were the composite scores for income effect, compulsive shopping, arousal-seeking and saving-propensity. A hierarchical multiple regression was used for testing the hypotheses H2a, H2b, H2c and H2d (model 1). Then, the stage 1 variables of devaluation effect, opportunity cost and coupon proneness were also included as (higher order) independent variables in model 2. This procedure was performed in order to test whether the inclusion of the factors that affect the decision whether to redeem the coupon (stage 1) in the model significantly affected the results of model 2. The results are shown in Table 15 and provide support for H2a (β = 0.21, *p*-value = 0.00), H2b (β = 0.23, *p*-value = 0.00) and H2c (β = 0.13, *p*-value = 0.0). The β weight associated with savings propensity (β = 0.31, *p*-value = 0.00) although significant, is opposite in direction to that

of the hypothesis and hence, H2d is not supported. The significance of the *F*-statistic suggests acceptable explanatory power ($R^2 = 0.35$, Adj. $R^2 = 0.34$).

The percentage of the total variance in the model explained shows marginal increase when stage one variables are also included in the regression (model 2). The directionality of the effects of income effect, compulsive shopping, arousal-seeking and savings propensity and significance remain unchanged under both the models, which indicates the stability of the hypothesized model.

TABLE 15

Stage 2 Hypotheses Testing Results: Whether to Keep or Spend Savings

		Model 1							Model 2			
Hypotheses	Indep. Variables	β*	Std.β**	*t*-Stat	*p*-Value	Tol	VIF***	Supp.?	β	Std.β	*t*-Stat	*p*-Value
	(Constant)	0.13		1.46	0.14				0.19		1.81	0.07
H2a	Income Effect	0.21	0.21	11.83	**0.00**	0.86	1.16	Yes	0.11	0.11	4.76	**0.00**
H2b	Compulsive Shopping	0.26	0.23	12.61	**0.00**	0.82	1.22	Yes	0.20	0.18	9.37	**0.00**
H2c	Arousal Seeking	0.16	0.13	7.19	**0.00**	0.85	1.17	Yes	0.19	0.15	8.36	**0.00**
H2d	Savings Propensity	0.30	0.31	17.18	**0.00**	0.86	1.16	No	0.23	0.24	12.33	**0.00**
	Devaluation Effect								0.13	0.12	6.11	0.00
	Opportunity Cost								-0.08	-0.08	-3.71	0.00
	Coupon Proneness								0.13	0.13	4.76	0.00
F		316.60			**0.00**				199.10			**0.00**
R		0.59							0.61			
R^2		0.35							0.37			
Adj. R^2		0.34							0.37			

*unstandardized beta coefficient; **standardized beta coefficient; ***variance inflation factor; Tol=tolerance level

Summary

H2a: The consumer's intention to spend the savings from coupon redemption is positively associated with the perception of savings (supported).

H2b: The consumer's intention to spend the savings from coupon redemption is positively associated with the compulsive shopping trait (supported).

H2c: The consumer's intention to spend the savings from coupon redemption is positively associated with the feeling of arousal generated by the coupon (supported).

H2d: The consumer's intention to spend the savings from coupon redemption is negatively associated with the savings propensity of the individual (not supported).

The last stage of the proposed model tests the determinants of how consumers choose to spend the savings from coupon redemption. This study proposes that the consumer has four options as to how s/he might spend the savings from coupon redemption: (option 1) buy more of the promoted product, (option 2) buy more of a complementary product, (option 3) buy more of a substitute product and (option 4) buy more of a novel product. The last set of hypotheses is associated with these four choices.

A hierarchical regression is used with intention to spend savings to buy more of the promoted product (ISSPP) as the dependent variable (option 1), which was a single-item scale. First, only the variables in the hypotheses H3a and H3b are included as independent variables (i.e., relative strength of income effect over devaluation effect and diminishing returns). The variables from stage 2 (compulsive shopping, arousal-seeking and savings propensity) and stage 1 (opportunity cost and coupon proneness) are incrementally included in the multiple regression analysis. The results of this analysis are presented in Table 16.

The results do not provide support for H3a (β = 0.02, *p*-value = 0.23). On the other hand, although the directionality of association is inverse of what was hypothesized in H3b (β = 0.07, *p*-value = 0.00), the beta weight is significant. In other words, consumers intend to spend their savings from coupon redemption to purchase more of the promoted product as the relative strength of their perception of savings over devaluation increases, but the relationship is not significant. In the context of H3b, on the other hand, consumers intend to buy more of the promoted product even though they already possess more of the same product, and the association is significant.

Subsequent addition of higher order variables in the hierarchical regression model yield interesting results. As seen in Table 16, explanatory power of the variables increases substantially from almost nil (model 1) to 17% (model 2) and to 20% in model 3. The directionality of relative strength of perceived savings over devaluation remains unchanged in model 2 (β = 0.05, *p*-value = 0.02) but reverses in model 3 (β = -0.08, *p*-value = 0.00). The directionality of diminishing returns, however, changes from positive in model 1 to negative in both model 2 (β = -0.03, *p*-value = 0.10) and model 3 (β = -0.02, *p*-value = 0.27) but becomes non-significant in both models. The higher order variables of compulsive shopping, arousal-seeking, savings propensity remain significant in both models 2 and 3 (*p*-value = 0.00 in both models). In model 3, opportunity cost is non-significant (*p*-value = 0.11), while coupon proneness is significant (*p*-value = 0.00). For the overall multiple regression model, *F*-statistics (*p* = 0.00) were significant for models 1, 2 and 3, suggesting that the variables explain the models significantly.

TABLE 16

Stage 3 Hypotheses Testing Results: Intention to Spend Savings on Promoted Product

		Model 1							Model 2				Model 3			
Hyp[1]	Independent Variables	β*	Std.β**	*t*-Stat	*p*-Value	Tol	VIF***	Supp?	β	Std.β	*t*-Stat	*p*-Value	β	Std.β	*t*-Stat	*p*-Value
	(Constant)	2.4		22.8	0.00				0.67		4.78	0.00	0.51		3.21	0.00
H3a	IE_DE	0.02	0.02	1.19	0.23	0.99	1.01	No	0.04	0.05	2.39	**0.02**	-0.07	-0.08	-3.21	**0.00**
H3b	Diminishing Returns	0.11	0.07	3.33	**0.00**	0.99	1.01	No	-0.05	-0.03	-1.65	0.10	-0.04	-0.02	-1.11	0.27
	Compulsive Shopping								0.28	0.19	9.08	**0.00**	0.19	0.13	5.75	**0.00**
	Arousal Seeking								0.16	0.09	4.55	**0.00**	0.16	0.10	4.66	**0.00**
	Savings Propensity								0.37	0.29	14.04	**0.00**	0.26	0.20	9.12	**0.00**
	Opportunity Cost												-0.05	-0.04	-1.62	0.11
	Coupon Proneness												0.30	0.22	8.43	**0.00**
F		5.96			**0.00**				97.34			**0.00**	85.60			**0.00**
R		0.07							0.41				0.45			
R^2		0.004							0.17				0.20			
Adj.R^2		0.005							0.17				0.20			

[1]hypotheses; *unstandardized beta coefficient; **standardized beta coefficient; ***variance inflation factor; Tol=tolerance level

TABLE 17

Stage 3 Hypotheses Testing Results: Intention to Spend Savings on Complementary Product

		Model 1							Model 2				Model 3			
Hyp[1]	Independent Variables	β *	Std.β**	*t*-Stat	*p*-Value	Tol	VIF***	Supp?	β	Std.β	*t*-Stat	*p*-Value	β	Std.β	*t*-Stat	*p*-Value
	(Constant)	2.29		21.93	0.00				0.53		3.77	0.00	0.46		2.88	0.00
H3c	Diminishing Returns	0.17	0.11	5.33	**0.00**	0.99	1.00	Yes	0.03	0.02	1.06	0.29	0.06	0.04	1.87	0.06
H3d	IE_DE	0.13	0.13	6.48	**0.00**	0.99	1.00	Yes	0.14	0.15	7.62	**0.00**	0.02	0.02	0.69	0.50
	Compulsive Shopping								0.30	0.20	9.72	**0.00**	0.22	0.15	6.67	**0.00**
	Arousal Seeking								0.19	0.11	5.58	**0.00**	0.20	0.12	5.90	**0.00**
	Savings Propensity								0.29	0.22	1.74	**0.00**	0.17	0.13	6.00	**0.00**
	Opportunity Cost												-0.09	-0.07	-2.79	**0.00**
	Coupon Proneness												0.28	0.21	7.94	**0.00**
F		32.59			**0.00**				95.81			**0.00**	84.98			**0.00**
R		0.16							0.41				0.45			
R^2		0.03							0.17				0.20			
Adj.R^2		0.03							0.20				0.20			

[1]hypotheses;*unstandardized beta coefficient; **standardized beta coefficient; ***variance inflation factor; Tol=tolerance level

Summary:

As seen in Table 16, the multiple regression analysis provide mixed results for H3a and H3b, which are stated as follows:

H3a: The consumer's intention to spend savings from coupon redemption to buy more of the promoted product is positively associated with the relative strength of perception of savings over that of devaluation due to coupon redemption (not supported).

H3b: The consumer's intention to spend savings from coupon redemption to buy more of the promoted product is negatively associated with the amount of the promoted product that the individual already possesses (not supported).

The second option for the consumer is to purchase a product that goes with the promoted product, referred to as complementary product in this dissertation (ISSCP).

A hierarchical regression is used with ISSCP as the dependent variable (option 2), which was a single-item scale. First, only the variables in the hypotheses H3c and H3d are included as independent variables (i.e., diminishing returns and relative strength of income effect over devaluation effect). The variables from stage 2 (compulsive shopping, arousal-seeking and savings propensity) and stage 1 (opportunity cost and coupon proneness) are incrementally included in the multiple hierarchical regression analysis.

As the results in Table 17 show, H3c is supported ($\beta = 0.11$, *p*-value = 0.00). In other words, the more of the promoted product the consumer already possesses, the more of a complementary product s/he will intend to purchase with the savings from coupon redemption. H3d is also supported ($\beta = 0.13$, *p*-value = 0.00) suggesting that higher the perception of savings over devaluation, higher the intention of the consumer to spend savings from coupon redemption on buying a complementary product.

When higher order variables are added to the multiple regression model, the directionality of the effect of diminishing returns remains unchanged in model 2 ($\beta =$

0.02, *p*-value = 0.29) as well as in model 3 (β = 0.04, *p*-value = 0.06), even though the effects are non-significant in both models. The directionality of the effect of income effect over devaluation effect remains unchanged in model 2 (β = 0.15, *p*-value = 0.00) and in model 3 (β = 0.02, *p*-value = 0.50). The effect remains significant in model 2 but becomes non-significant in model 3. The stage 2 higher order variables of compulsive shopping, arousal-seeking, savings propensity remain significant in model 1 (*p*-value = 0.00), model 2 (*p*-value = 0.00) and model 3 (*p*-value = 0.00), as seen in Table 17. The stage 1 higher order variables of opportunity cost (*p*-value = 0.00) and coupon proneness (*p*-value = 0.00) are significant (model 3).

Overall, *F*-statistic is significant for models 1, 2 and 3 (*p*-value = 0.00 in each case). There is notable increase in explanatory power from model 1 (R^2 = 0.03, Adj. R^2 = 0.03) to model 2 (R^2 = 0.17, Adj. R^2 = 0.20), and nominal increase from model 2 to model 3 (R^2 = 0.20, Adj.R^2 = 0.20). These indicators suggest that the stage 2 variables (model 2) add substantial explanatory power to the model, while stage 1 variables add only marginal explanatory power to the model (model 3).

Summary:

H3c: The consumer's intention to spend savings from coupon redemption to buy a complementary product is positively associated with the amount of the promoted product that the individual already has (supported).

H3d: The consumer's intention to spend savings from coupon redemption to buy a complementary product is positively associated with the relative strength of perception of savings over that of devaluation due to coupon redemption (supported).

The third option for the consumer is to spend the savings from coupon redemption to buy a similar product, referred to as substitute product in this dissertation (ISSSP).

A hierarchical regression is used with ISSSP as the dependent variable (option 3), which was a single-item scale. Only the variables in the hypotheses H3e and H3f are included as independent variables (i.e., devaluation effect and switching behavior). The variables from stage 2 (income effect, compulsive shopping, arousal-seeking and savings propensity) and stage 1 (opportunity cost and coupon proneness) were incrementally included in the multiple hierarchical regression model.

As the results in Table 18 show, H3e is supported ($\beta = 0.27$, *p*-value = 0.00). In other words, the higher the devaluation of the promoted product due to the coupon, the higher the intention of the individual to spend savings to buy a substitute product. H3f is also supported ($\beta = 0.50$, *p*-value = 0.01), which suggests that the higher the switching behavior of the consumer, the higher the intention to buy a substitute product with savings from coupon redemption.

When higher order stage 2 variables (such as income effect, compulsive shopping, arousal-seeking and savings propensity) are added to the multiple regression model, the directionality and significance of devaluation effect in model 2 ($\beta = 0.12$, *p*-value = 0.00) remain unchanged. The degree of association of switching behavior becomes zero ($\beta = 0.00$, *p*-value = 1.00) and non-significant in model 2. As far as the higher order stage 2 variables are concerned, they are significant (*p*-value = 0.00) in model 2. Finally, when the stage 1 higher order variables of opportunity cost and coupon proneness are added, there is negligible increase in degree of association of devaluation effect ($\beta = 0.14$, *p*-value = 0.00), and that of switching behavior ($\beta = 0.02$, *p*-value = 0.24), while the latter

association continues to be non-significant (model 3). Also, opportunity cost (*p*-value = 0.00) and coupon proneness (*p*-value = 0.00) are significant (model 3).

Overall, *F*-statistic is significant for each of the models 1, 2 and 3 (i.e. *p*-value = 0.00 in all models). There is a notable increase in explanatory power from 8% (model 1) to 21% (model 2) and to 22% in model 3.These figures, as seen in Table 18, suggest that stage 2 higher order variables add notable explanatory power to the model, whereas stage 1 variables add almost zero additional power.

Summary:

H3e: The consumer's intention to spend savings from coupon redemption to buy a substitute (of the promoted) product is positively associated with the perception of devaluation of the promoted product (supported).

H3f: The consumer's intention to spend savings from coupon redemption to buy a substitute (of the promoted) product is positively associated with the switching behavior (supported).

TABLE 18

Stage 3 Hypotheses Testing Results: Intention to Spend Savings on Substitute Product

Hyp[1]	Independent Variables	Model 1 β*	Std.β**	*t*-Stat	*p*-Value	Tol	VIF***	Supp.?	Model 2 β	Std.β	*t*-Stat	*p*-Value	Model 3 β	Std.β	*t*-Stat	*p*-Value
	(Constant)	1.61		14.69	0.00				0.10		0.72	0.47	0.30		1.84	0.67
H3e	Devaluation Effect	0.37	0.27	13.47	**0.00**	0.98	1.02	Yes	0.16	0.12	5.44	**0.00**	0.19	0.14	6.08	**0.00**
H3f	Switching Behavior	0.70	0.50	2.47	**0.01**	0.95	1.05	Yes	0.00	0.00	0.00	1.00	0.03	0.02	1.17	0.24
	Income Effect								0.15	0.11	5.61	**0.00**	0.00	0.00	0.11	0.91
	Compulsive Shopping								0.27	0.18	8.58	**0.00**	0.24	0.17	7.46	**0.00**
	Arousal Seeking								0.09	0.05	2.69	**0.00**	0.12	0.07	3.44	**0.00**
	Savings Propensity								0.29	0.22	10.53	**0.00**	0.25	0.19	8.92	**0.00**
	Opportunity Cost												-0.09	-0.08	-3.09	**0.00**
	Coupon Proneness												0.17	0.12	4.06	**0.00**
F		99.99			**0.00**				103.46			**0.00**	83.83			**0.00**
R		0.28							0.46				0.47			
R^2		0.08							0.21				0.22			
Adj.R^2		0.08							0.21				0.22			

[1]hypotheses; *unstandardized beta coefficient; **standardized beta coefficient; ***variance inflation factor; Tol=tolerance level

TABLE 19

Stage 3 Hypotheses Testing Results: Intention to Spend Savings on Novel Product

		Model 1							Model 2				Model 3			
Hyp.[1]	Independent Variables	β*	Std.β**	*t*-Stat	*p*-Value	Tol	VIF***	Supp.?	β	Std.β	*t*-Stat	*p*-Value	β	Std.β	*t*-Stat	*p*-Value
	(Constant)	1.41		9.99	0.00				0.29		1.91	0.06	0.28		1.52	0.13
H3g	Novelty Seeking	0.41	0.23	1.15	0.25	0.99	1.01	No	-0.06	-0.04	-1.45	0.15	-0.06	-0.04	-1.42	0.16
H3h	Income Effect	0.37	0.27	13.68	**0.00**	0.99	1.01	Yes	0.22	0.16	7.93	**0.00**	0.14	0.10	3.77	**0.00**
	Compulsive Shopping								0.26	0.17	8.36	**0.00**	0.22	0.15	6.43	**0.00**
	Arousal Seeking								0.20	0.12	4.50	**0.00**	0.22	0.13	4.7	**0.00**
	Savings Propensity								0.25	0.19	9.19	**0.00**	0.20	0.15	6.81	**0.00**
	Devaluation Effect												0.08	0.06	2.37	**0.02**
	Opportunity Cost												-0.03	-0.03	-1.01	0.31
	Coupon Proneness												0.12	0.09	2.80	**0.00**
F		97.45			**0.00**				100.05			**0.00**	65.12			**0.00**
R		0.27							0.42				0.42			
R^2		0.08							0.17				0.18			
Adj.R^2		0.07							0.17				0.18			

[1]hypotheses; *unstandardized beta coefficient; **standardized beta coefficient; ***variance inflation factor; Tol=tolerance level

The fourth option for the consumer is to spend the savings from coupon redemption to buy a product that is unrelated to the promoted product, referred to as novel product in this dissertation (ISSNP).

A hierarchical regression is used with ISSNP as the dependent variable (option 4), which is a single-item scale. Only the variables in the hypotheses H3g and H3h are included as independent variables (i.e., novelty-seeking and income effect). Then, the variables from stage 2 (compulsive shopping, arousal-seeking and savings propensity) were incrementally included in the multiple hierarchical regression model.

As the results show in Table 19**,** H3g is not supported (β = 0.23, *p*-value = 0.25), suggesting that novelty-seeking does not have an association with intention to spend savings on novel product. H3h is supported (β = 0.27, *p*-value = 0.00).

When higher order stage 2 variables (such as compulsive shopping, arousal-seeking and savings propensity) are included in the multiple regression model, the directionality of novelty-seeking gets reversed and becomes non-significant in model 2 (β = - 0.04, *p*-value = 0.15). The direction of association of income effect, however, remains unchanged and the beta weight stays significant in model 2 (β = 0.16, *p*-value = 0.00). All the higher order variables (compulsive shopping, arousal-seeking and savings propensity) are significant in model 2 (*p*-value = 0.00 for all variables). When stage 1 higher order variables (devaluation effect, opportunity cost and coupon proneness) are subsequently added to the regression model, the direction of association of novelty-seeking, once again, stays negative but continues to be non-significant in model 3 (β = -0.04, *p*-value = 0.16). Income effect continues to show same direction of association and is significant in

model 3 (β = 0.10, *p*-value = 0.00). The stage 1 variables (model 3) show mixed effects as seen in Table 19. Devaluation effect (*p*-value = 0.02) is significant, opportunity cost is non-significant (*p*-value = 0.31) and coupon proneness is significant (*p*-value = 0.00).

Overall, the *F*-statistic is significant for each of the three models (*p*-value = 0.00). There is notable increase in explanatory power from model 1 (R^2= 0.08, Adj. R^2 = 0.07) to model 2 (R^2 = 0.17, Adj. R^2 = 0.17), but not for model 3 (R^2 = 0.18, Adj.R^2 = 0.18).

Summary:

H3g: The consumer's intention to spend savings from coupon redemption to buy a novel product is positively associated with the novelty-seeking trait (not supported).

H3h: The consumer's intention to spend savings from coupon redemption to buy a novel product is positively associated with the perception of savings (supported).

TABLE 20

Summary of Hypotheses Tests Results

Hypotheses	Supp.?
H1a: The consumer's intention to redeem the coupon is negatively associated with the perception of devaluation of the promoted product due to the coupon	No
H1b: The consumer's intention to redeem the coupon is positively associated with the perception of savings from coupon redemption	Yes
H1c: The consumer's intention to redeem the coupon is negatively associated with the opportunity cost of coupon redemption	Yes
H1d: The consumer's intention to redeem the coupon is positively associated with the coupon proneness of the consumer	Yes
H2a: The consumer's intention to spend the savings from coupon redemption is positively associated with the perception of savings	Yes
H2b: The consumer's intention to spend the savings from coupon redemption is positively associated with the compulsive shopping trait	Yes
H2c: The consumer's intention to spend the savings from coupon redemption is positively associated with the feeling of arousal generated by the coupon	Yes

(table continues)

TABLE 20 (continued)

Hypotheses	Supp?
H2d: The consumer's intention to spend the savings from coupon redemption is negatively associated with the savings propensity of the individual	No
H3a: The consumer's intention to spend savings from coupon redemption to buy more of the promoted product is positively associated with the relative strength of perception of savings over that of devaluation due to coupon redemption	No
H3b: The consumer's intention to spend savings from coupon redemption to buy more of the promoted product is negatively associated with the amount of the promoted product that the individual already possesses	No
H3c: The consumer's intention to spend savings from coupon redemption to buy a complementary product is positively associated with the amount of the promoted product that the individual already has	Yes
H3d: The consumer's intention to spend savings from coupon redemption to buy a complementary product is positively associated with the relative strength of perception of savings over that of devaluation due to coupon redemption	Yes
H3e: The consumer's intention to spend savings from coupon redemption to buy a substitute (of the promoted) product is positively associated with the perception of devaluation of the promoted product	Yes
H3f: The consumer's intention to spend savings from coupon redemption to buy a substitute (of the promoted) product is positively associated with the switching behavior	Yes
H3g: The consumer's intention to spend savings from coupon redemption to buy a novel product is positively associated with the novelty-seeking trait	No
H3h: The consumer's intention to spend savings from coupon redemption to buy a novel product is positively associated with the perception of savings	Yes

CHAPTER 5

DISCUSSION

Overview

This study investigates consumer's grocery coupon redemption decision-making process and its antecedents and consequences. Specifically, it looks at the process from an atomistic perspective and the different stages involved in the coupon redemption process, which culminates in the potential utilization of savings from coupon redemption on purchases of other grocery products.

In order to gain clarity into this process, the study relies on the theoretical framework of reasoned action (Ajzen and Fishbein 1980) and takes the stance that coupon redemption is a pre-planned and well-coordinated process (Bagozzi, Baumgartner and Yi 1992). The theory of reasoned action suggests that an individual's beliefs towards the consequences of certain actions influence his/her attitude towards an action, which, in turn, influences the individual's intention to perform that action. In other words, an individual's intention to redeem a coupon or spend the savings on making further purchases can be considered to be a strong indicator of how the individual would act under the given circumstances.

To this end, the first chapter introduces the concept of coupon redemption, discusses the reasons why coupons are considered one of the most prominent tools of promotion and some of the issues of concern with respect decreasing coupon redemption. The first chapter also provides a brief discussion of coupon-related literature in marketing

and non-marketing disciplines, and how such research has provided structure and support to the current study.

Chapter 2 offers a detailed review of literature pertaining to coupons, such as coupon distribution and usage, different types of coupons available, which products are more prone to coupon redemption than others, different sources of coupon and the media through which they are made available to consumers. A discussion about the major theories associated with coupon redemption is undertaken, which leads to hypotheses development.

Chapter 3 provides an outline of the research method followed, including the scale development process, pilot studies (where data was collected and how the scales were refined with relevant input from different sources). This set the stage for conducting the main study, which was discussed towards the end of that chapter.

Finally, chapter 4 provides a discussion of the data analyses undertaken and its results. Detailed discussion is provided with regard to validity and generalizability of data and reliability of the constructs used in the study. The fourth chapter also provides the results of the tests of hypotheses. This chapter presents an analysis and pertinent discussion of the statistical results of the hypotheses that were tested in Chapter 4.

Stage 1: Intention to redeem the coupon

Overall, the four factors of income effect, devaluation effect, opportunity cost and coupon proneness explain 33% of the total variance, which suggests that the first stage (whether to redeem the coupon or not) of the hypothesized model (Figure 3, Chapter 2) is reasonably robust. However, the hypothesis that the individual's intention to redeem the

coupon was negatively associated with the perception of devaluation due to the coupon was not supported. Given that grocery products undergo rigorous inspection and quality checks by the USDA, FDA and other agencies, the general consumer, it appears, has developed a certain level of confidence in their grocery purchase. As such, devaluation effect may not be strong enough (beta weight -0.02) to negatively influence their purchase.

The second hypothesis, which states that the individual's intention to redeem a coupon is positively associated with his/her perception of savings from coupon redemption, is supported. It suggests that perception of savings positively influences the decision whether to redeem a coupon, and this result strengthens the findings gleaned from psychology and economics literatures (Arkes et al. 1994; Golden and Zimmer 1986; Kreps 1990; Mansfield and Yohe 2000).

The third hypothesis, which suggests that the consumer's intention to redeem the coupon is negatively associated with the opportunity cost of redeeming the coupon is also supported. The consumer could have devoted the time and effort expended on collecting and redeeming coupons in performing some other activities. In other words, by redeeming the coupon, the individual foregoes the opportunity to perform those alternative activities.

Coupon proneness is a recognized behavioral trait in marketing and promotions literature (Lichtenstein, Netemeyer and Burton 1990). Individuals, who are coupon-prone, have a positive disposition towards redeeming coupons. To the best of the author's knowledge, no prior research focused on the validity of the coupon-proneness scale with

regard to grocery products. Thus, support for the fourth hypothesis (the consumer's intention to redeem the coupon is positively associated with the coupon proneness of the consumer) provides credence to the robustness of the current study.

Stage 2: Keep or spend savings from coupon redemption

In the second stage of the coupon redemption process, the consumer intends to either keep or spend the perceived savings from coupon redemption. This is influenced by factors such as the perception of savings, compulsive shopping trait, arousal seeking and savings-propensity of the individual. The results indicated that this intention is positively influenced by perception of savings, compulsive shopping, arousal-seeking and savings-propensity. In other words, as economics and marketing literatures suggest, if the perception of increase in real income (income effect) is high, the individual will be motivated to spend (rather than keep) the savings from coupon redemption (Arkes et al. 1994; Sherman and Smith 1987).

The construct of compulsive shopping is well-established in promotions literature. It is defined as "chronic buying episodes of a somewhat stereotyped fashion in which the consumer feels unable to stop or significantly moderate the behavior" (Faber and O'Guinn 1989, p.738). The current study supports the hypothesis that compulsive shoppers are more likely to spend their savings from coupon redemption (H2b).

Similarly, the phenomenon that perception of savings leads to arousal and the role of arousal in stimulating purchases has long been recognized in marketing literature (Chandon, Wansink and Laurent 2000; Donovan et al. 1994), which is now further strengthened by the findings of the current study.

This study, however, does not support the hypothesized negative relation between the intention to spend savings and the savings propensity of the individual (H2d). A probable cause for this unexpected result might be that savings on grocery coupons are too trivial for the consumer (Cheong 1993), especially in comparison to other constructs aiding the spending drive, such as compulsive shopping and arousal. Unless the value of savings reaches a "threshold" level, consumers may either not be able to perceive savings, or they may not find keeping track of and utilizing such savings worth their effort. A similar notion of "threshold" has been suggested in literature on gambling and savings propensity in consumer behavior literature as well as in literature on investment behavior (Poser 2001) and management (Gaba and Viscusi 1998). Individuals who take risks for entertainment purposes (such as gamblers and investors) are not perturbed by losses as long as the losses are small.

Stage 3: How to spend savings from coupon redemption

Stage 3 in the hypothesized coupon redemption process focuses on the consumer's choice set with respect to utilization of savings from coupon redemption. The first option considered in the study is to buy more of the promoted product. As explained in the theoretical framework, a coupon engenders two conflicting perceptions in the consumer's mind: one is that of savings (income effect), which may motivate more purchases of the promoted product. The other is that of devaluation of the promoted product, which may result in lower purchase of the product. The consumer will utilize the savings to buy more of the promoted product only if income effect is greater than devaluation effect. However, the findings do not support this hypothesis. In other words,

the consumer's purchase of more of the promoted product may be influenced by factors other than the difference of income effect over devaluation effect. It may be influenced more by consumer's need, promotion, impulse, and other transaction-specific topical factors.

The second hypothesis, which states that the intention to buy more of the promoted product is negatively associated with the amount of the promoted product the consumer already possesses, is also not supported. Surprisingly, the direction of the association is positive and significant. One probable reason might be that most of the grocery products in the basket chosen for the current study have a relatively long shelf life (bread, snacks, juice, frozen ready-to-eat and soft drinks). As such, even if the consumer possesses the promoted product, s/he may be encouraged to stock up using the savings from coupon redemption. This, in turn, might lead to its positive but weak (beta weight = 0.07) association with the intention to spend savings from coupon redemption. The strengths of the associations between income effect over devaluation effect and diminishing returns with intention to purchase a promoted product are very weak (R^2 = 0.004).

When higher order variables (from hypothesized stage 1 and stage 2 of the coupon redemption process) are included in the model, total variance explained increases by 17%, but the results still remain inconclusive. Thus, it can be suggested that the increased purchase of the promoted product is not a simple function of income effect, devaluation effect, and how much of the promoted product is in the pantry. It is complex, and should be a focus of future research. It may be surmised that even the relatively

straightforward decision of whether or not to redeem a coupon is not significantly associated with devaluation effect (H1a). This may have played a role as to why the strength of income over devaluation effect is not associated with intention to spend savings to buy more of the promoted product.

The second option in stage 3 (of the hypothesized coupon redemption process) argues that consumers could also spend savings from coupon redemption to buy complementary products. The results suggest that this decision is positively associated with the amount of the promoted product that the individual already possesses, and positively with the perception of income effect over devaluation effect. These findings make sense because complementary products (hot dog buns) are purchased to enhance the enjoyment of consumption of the promoted product (hot dog). Arguably, if the individual already has enough of the promoted product to start with, his/her intention to buy more of a complementary product will also be high, especially if they feel that they are "richer" (income effect over devaluation effect). Overall, these two variables explain only three percent of the total variance in the model.

The third proposed option available to consumers is to spend savings on buying a substitute product. The results provide support for the notion that when the promoted product is highly devalued in the consumer's perception, it motivates higher purchase of a similar product and/or competing brand (which, in economics terminology, is referred to as substitute product, such as Kellogg's All Bran® vs. Post's Raisin Bran®). The results also provide support for the argument that the higher the switching behavior of consumers, the higher the intention to buy more of a substitute product. The rationale is

as follows: once the consumer redeems the coupon by purchasing the promoted product, s/he will use the savings from coupon redemption to buy more of the substitute product, because of his/her tendency to switch from the promoted to the substitute product. This finding has implications in terms of how to block a competing product's sale using coupons. It does not appear to be happening, especially if the coupon leads to a devaluation effect.

When the higher order variables were included in the regression model, the directionality and significance of devaluation effect remain intact. For switching behavior, although the direction of association remains unchanged, it becomes non-significant for both the latter stages. It appears that the devaluation effect has a more lasting effect on the purchase of substitute products than the switching behavior itself.

The fourth option proposed is to spend savings on novel product. The results do not provide support for the first hypothesis, suggesting that consumers' novelty-seeking trait will have a positive effect on their buying novel product, if using savings from coupon redemption. Novelty-seeking is defined as a person's tendency to approach rather than avoid varied and novel experiences (Mehrabian and Russell 1974). A probable explanation for the non-significant result associated with novelty may lie in the way the construct of novelty-seeking is defined and operationalized. It is possible that the global operationalization of novelty-seeking is not relevant for something as mundane or even as crucial as grocery products. Maybe a more context-specific operationalization of this construct is required.

The results do provide support for the hypothesized positive relation between

the individual's income effect and the intention to spend savings from coupon redemption to buy novel grocery products. When stage 2 and stage 3 variables are included in the model, the novelty-seeking construct continues to remain non-significant, whereas the effect of perceived savings remains unchanged.

Summary

The overarching goal of this study was to investigate the role of economic, marketing and psychological factors in the consumer's intention to redeem grocery coupons and utilizing the perceived savings to make more grocery purchases. The data collected for this purpose is large, reasonably representative of the geography in terms of demographics, and resembles industry reports in terms of coupon redemption by consumers.

In terms of data analysis, all of the five constructs developed for this study possess acceptable measures of reliability, convergent and discriminant validity (Tables 8, 9, 10 and 12 in Chapter 4). The reliability measures vary between 0.69 and 0.86, with means varying between 2.29 and 3.36 (on a scale of one to five). Moreover, only one out of the 60 items measured and used for the current analysis shows cross-loading.

When reviewed from a broader perspective, it seems that most of the proposed relationships of the antecedents to basic decision such as "whether to redeem the coupon" or "whether to spend the savings from coupon redemption" find support in this study. However, the relationship between antecedents to the decisions options pertaining to "how to spend the savings from coupon redemption" may be more complex than what is

proposed in the study. The findings have interesting implications for promotion management, bundling of product offerings and placement of products in a retail environment, which are discussed in detail in the next and final chapter.

CHAPTER 6

LIMITATIONS, IMPLICATIONS AND FUTURE DIRECTIONS

The first section of this chapter outlines the limitations. The next section provides managerial and academic implications of the findings, as well as suggests avenues for further research.

Limitations

The convenience snowball sample used for data collection is used fairly widely in social science research (Huang and Oppewal 2006; Mehrabian and Russell 1974). Students at a large metropolitan university in the Dallas-Fort Worth region in Texas were asked to collect data from their acquaintances. In order to obtain a diverse sample and maintain integrity of the data at the same time, students were asked to adhere to rigid screening criteria as described in Chapter 3. Moreover, in order to make the data as generalizable as possible, the responses were screened based on the respondent's profession and only part- or full-time employed respondents were included in the final analysis. Even though the data withstood the test of diversity, representative geographical distribution, and normality of distribution, a replication using a different sampling procedure and even a different sampling frame may not be bad idea.

The self-reported Internet-based survey poses a limitation by itself because it precludes verification of authenticity of the respondent—for example, whether the survey was actually filled out by the person responsible for grocery shopping in the household,

as desired. In contrast, data might have been collected using store-intercept methods and secondary sources of data (Heilman, Nakamoto and Rao 2002) or scanner panel data (Jorge and Bucklin 2004), which have the capability to provide more objective information pertaining to coupon-usage behavior as exhibited by actual grocery-shoppers.

The third limitation was the focal product category, which included grocery products such as milk, bread, snacks (chips, munchies and cookies), cheese, juice, meat, frozen ready-to-eat food and soft drinks. Analysis was restricted to this basket of goods for several reasons, such as the highest number of coupons redeemed, ubiquity of coupons in the grocery industry as a whole, the universal consumption of grocery products and the difficulty and complexity of analyzing coupon redemption behavior across different industries. Above all, it was felt that since grocery products were consumed more frequently than most other products, and respondents would be able to provide more accurate responses to the survey questions. Nonetheless, a replication of this study in another sector is recommended.

The fourth limitation of the study was the focus on the intention (as opposed to actual behavior) of the individual. Since grocery products are mostly routine purchases and are considered to be trivial by some consumers (Silva-Risso and Bucklin 2004), respondents might not have been motivated to think how they would intend to act under certain circumstances, as asked in the questionnaire.

Finally, the study instructed the respondents to focus on coupons primarily distributed through newspapers, magazines, door-knob fliers, regular mail, or those found at the store. Internet coupons (also called e-coupons) were excluded. Future research

should involve other types of coupons as well, in order to enrich our understanding of coupon usage behavior.

Implications and Future Directions

The current study investigates if and how different economic, marketing and psychological factors influence the consumer's coupon redemption, saving and spending intentions. Since intentions have been found to be strong predictors of actual behavior (Bagozzi, Baumgartner and Yi 1982a) and this study is an attempt to synthesize related but often conflicting views from different fields, the contribution of the current research can hardly be overemphasized.

Coupons are considered to be one of the most popular and widely-used tools of promotion (Bonnici et al. 1996; Cheong 1993). Furthermore, its usage is not just confined to the grocery sector, but has extended to other sectors of the retail industry as well. As such, there exists a notable volume of research regarding promotions using coupons (Dhar, Morrison and Raju 1996; Henderson 1988). The grocery industry features one of the highest numbers of coupons distributed and redeemed (Coupon Council 2006). Nonetheless, issues involving coupon usage in this sector seem to have been largely overlooked. Academicians (Bawa and Shoemaker 1987; Dong and Kaiser 2005) have identified a plethora of factors that influence coupon redemption behavior, but there is a lack of unanimity as to why coupon redemption rates are on the decline over the last few years. It is important to answer this question to justify the expenses of manufacturing and

distribution of coupons. In this regard, the concepts included in the proposed model in this study have provided additional explanation.

One way to "justify" coupon distribution expenses would be to persuade consumers "trade up" to higher margin products by offering coupons. In other words, manufacturers can encourage purchase of higher-margin items by offering exclusive coupons to consumers who traditionally purchase only the lower-margin items. The consumer might be persuaded to become loyal to the higher-margin product through this type of coupon-based incentive. Even though this strategy might require a substantial commitment from the manufacturer, the results might be lucrative in the long run, because of the manufacturer's potential to tap into the discretionary income of the consumers. This might be critical in the grocery sector where margins are traditionally lower than other industries.

The findings from this study have some interesting implications for the manufacturers and retailers. If the consumer buys more of a complementary or a novel product with savings from redeeming coupons (as found in this study), such purchase behavior might result in increased sales of an unintended product at the cost of the promoted product.

From an operational standpoint, the complementary product needs to be placed in the vicinity of the promoted product inside the store, so as to make it convenient for the shoppers. Another solution would be to offer complementary products as bundled packages. Finally, if consumers buy more of a novel product with savings from coupon

redemption, it might provide additional information about the consumer's shopping behavior and hence, new opportunities for the manufacturers and retailers.

When sales of competitors' brands or products (substitutes) increase at the cost of the promoted product (as found in this study), the outcome is exactly the opposite of what the coupon manufacturer or distributor had desired. In other words, the managers must think about the implication of coupon-based promotional strategy before distributing coupons--the role of devaluation needs to be considered in depth. If the manufacturer is able to clearly identify the reason for devaluation, appropriate steps can be taken to address such misconceptions.

The consumer's decision to redeem the coupon also depends on the perception of savings (income effect). The mere prospect of savings can potentially elevate the consumer's mood, resulting in more spending on a shopping trip (Arkes et al. 1994). The current study supports this notion. However, different consumers have different threshold levels of savings-perception. Future research should investigate the notion of threshold in savings and its effects on coupon-usage behavior. This will help in designing better promotional strategies by the manufacturer or the retailer by segmenting the market based on coupon-discount elasticity.

As the current study shows, the decision to redeem the coupon is also influenced by the concept of opportunity cost of redeeming the coupon. The consumer could have, instead, invested this time and effort in some other activity. What further increases the opportunity cost to the consumer are the additional terms and conditions that need to be fulfilled for coupon redemption, such as bulk purchase, purchases of specific products,

inability to calculate the coupon-discounted price of the product, and remembering to redeem the coupon before the expiry date. Thus, another lesson to learn from the current study is that if redemption rates are to be enhanced in the future, then the manufacturer needs to make the redemption process much simpler (e.g. eliminate expiry dates, or issue more cents-off instead of percent-off coupons).

The role of coupon proneness in affecting coupon redemption is generally accepted (Lichtenstein, Netemeyer and Burton 1990). The present study finds support for the positive relation between coupon proneness and the consumer's decision whether to redeem a coupon. This information is valuable to coupon distributors from a cost-benefit perspective. If consumers can be clustered based on the magnitudes of their coupon-proneness, then more coupons can be targeted towards those with higher inclination to redeem a coupon. This will lead to higher redemption rates, more effective targeting and lower wastage of resources.

Once the consumer decides to redeem the coupon, the choice between spending and keeping the savings from coupon redemption is positively associated with the arousal-seeking trait of the consumer. Even though this scale is established in the psychology literature and applied in marketing research (Donovan et al. 1994; Mehrabian and Russell 1974), there remains some doubt about the reliability of the scale, both at the source and in the current study. Future research might be undertaken to revalidate this scale, especially in the context of coupon.

The current study hypothesizes that the higher the savings propensity, the lower the intention to spend the savings from coupon redemption, but results do not support this

contention. Since this idea is fairly intuitive, further research must be conducted to identify the reason for this anomaly. According to economic theory, savings propensity decreases with increase in real income (Varian 1999). In other words, consumers whose income is likely to increase (recent graduates, for example) will have a lower savings propensity. Thus, another avenue for research might be to investigate how those segment(s) of consumers utilize their savings from coupon redemption.

Lack of support for the above hypothesis also raises another question: does intention to spend savings also depend on the level of perceived savings? Academics have theorized that if coupon face values are too small, consumers' purchase behavior might not be influenced by the coupon (Cheong 1993). In other words, consumers might not be motivated to spend the savings because of failure to perceive the savings. Consequently, this topic might enrich future research.

Another hypothesis tested but not supported in the current study is that, the difference of income effect over devaluation effect is positively associated with the intention to spend savings on purchasing more of the promoted product. However, this difference was found to be significantly associated with intention to spend savings on complementary product. This result is intriguing, and perhaps future research can attempt to identify the reasons why the difference in income effect and devaluation effect significantly influences one choice and not in the other.

There was also a lack of support for the proposed negative association between diminishing returns and intention to spend savings on the promoted product. Further research can be conducted to check whether selecting a different basket of products

(perishable products, e.g. fruits and vegetables, or bulky products, like multi-packs) than the ones in the current study lends support for this hypothesis. It is possible that the perception of diminishing returns (the phenomenon of diminishing convenience from purchase of additional units of the same product) will be more salient for perishable or bulky products than for those, which have a longer shelf life, or for those that are available in smaller, manageable units. In this respect, it might be interesting to investigate for differences in coupon redemption intention among different items within the current basket of grocery products, which contains both perishable (milk, cheese, bread, meat, juice) and non-perishable (snacks, frozen ready-to-eat, soft drinks) products.

Research shows that coupons encourage consumers to switch from the competitor's product to the promoter's product (Gedenk and Neslin 1999). One of the hypotheses in the current study, conversely, suggests that the promoted product's coupon encourages the consumers with high switching behavior to purchase a substitute (competitor's) product, with savings from coupon redemption of the promoted product, as is supported by the findings. Another topic for future research might be to investigate the relative strengths of these two conflicting effects of switching behavior on the sale of competing products.

The current study does not distinguish between the effects of "regular" coupons (collected in advance) and "surprise" coupons (available from coupon-dispensers or at the checkout counter in the store, as studied by Heilman, Nakamoto and Rao 2002). While surprise coupons might result in a state of heightened arousal due to the prospect of savings, at the same time the consumer might be less inclined to redeem such a coupon

received at the checkout counter due to shopping fatigue (Passy and Collins 2001; Santoli 2003). It may be interesting to investigate which type of coupons are more effective—the ones collected by the consumer prior to the shopping trip or those that are received at the store.

Along the same lines, if the surprise coupons at the checkout counter are for item(s) that had been "devaluated" by the consumer due to prior exposure to its coupons, then the surprise coupons might be able to reduce or even reverse that devaluation effect on the item and its manufacturer. This is a possibility because 1) such surprise coupons can engender brand loyalty (Raju 1990; Lichtenstein 1990) in favor of the promoted product and 2), Heilman, Nakamoto and Rao (2002) found that surprise coupons lead to an increase in the size of the shopping basket and in the number of unplanned purchases on that shopping trip. Thus, it might be another promising avenue for further research.

As indicated in Chapter 2, loyal consumers who would have purchased the product irrespective of whether the coupon was available or not, redeem most of the coupons. As such, some researchers have argued that coupon distribution is tantamount to wastage of resources (Silva-Risso and Bucklin 2004). The current study does not address the issue of loyalty and its influence on coupon redemption behavior, which might be an interesting topic for future study. Specifically, it might be worth investigating whether manufacturer coupons or retailer coupons have a stronger impact on purchase behavior or whether the difference, if any, is non-significant.

Associated with the above is the issue of "selling against the brand." Retailers often place higher-priced name brands alongside store brands, which are typically lower-

priced than the former. As a result, manufacturers are sometimes at a disadvantage, because consumers choose the store-brands (Lamb, Hair and McDaniel 2006) over name-brands. The problem might be even more acute for convenience grocery products (as is the case in the current study), where the difference between name- and store-brands is hardly perceptible. Retailers can further capitalize on this behavior of consumers by distributing retailer's coupons, and this provides an interesting topic for managers and research.

Finally, an experiment might be conducted to study the probable reason why some of the hypotheses in the current study were not supported. Since an experimenter has the ability to exercise more control over extraneous factors, it even help us frame certain causal-effect relationships between coupon redemption behavior and its antecedents—something that has not been attempted in the current research.

APPENDIX A

ANTECEDENTS AND CONSEQUENCES OF COUPON REDEMPTION BEHAVIOR

(ADAPTED FROM BARAT AND YE 2004)

Category	Items	Description	Authors
Antecedents	Coupon attitude	How consumer's behavior guided by attitude towards coupon in general	Ailawadi (2001); Amin (1993); Bagozzi(1990); Burton(1998); Chapman (1997); Huff(1998); Lichtenstein(1990); Mittal (1994); Papatla (1996);
1. Coupon Attitude	Family coupon attitude		
	Embarrassment from using coupon		
2. Coupon Perception	Coupon face value Perception	How coupon perceived by consumer	Chen (1998); Garretson (1999); Inman (1994); Lichtenstein (1990); Raghubir (1998); Reibstein (1982);
	Coupon discount perception		
	Coupon discount rate perception		
	Coupon value conscious		
	View coupon favorably		
3. Coupon Knowledge	Price sensitivity	What consumer knows about coupon and coupon related features.	Heilman (2002); Huff (1998); Reibstein (1982); Taylor (1983)
	Price perception		
	Coupon distribution preference		
	Prefer coupon type		
	Product familiarity		
Consequences	Level of use of coupon	How consumer decides to actually use coupon.	Mittal (1994), Litchenstein (1990, 1993), Reibstein (1982), Huff (1998)
1. Coupon Use	Frequency of coupon use		
	Redemption value		
	Number of redemptions		
	Frequency of redemption		
2. Brand Perception	Brand loyalty	Effect of coupon on brand perception	Chapman (1997), Litchenstein (1990), Papatla (1996), Amin (1993)
	Brand competitiveness		
	Brand switching		
3. Purchase Behavior	Likelihood to buy	Effect on purchase behavior of consumer due to coupon.	Judith (1999), Bagozzi (1992), Cheong (1993), Aggarwal (2003), Raghubir (1998), Heilman(2002), Amin (1993), Chen (1998), Taylor (1983)
	Total amount spend		
	Number if items bought		
	Repeat purchase		

Please note: 1) many of the cites in this table are mentioned exclusively for informational purposes and are not part of the current research and 2) due to space constraints, only the first author is mentioned for each study

APPENDIX B

INSTRUMENT FOR PILOT STUDY

July 2006

Dear Head of Household,

Greetings from the University of North Texas in Denton! I am a PhD student in Marketing at UNT. I am conducting this study as part of my dissertation (research) to understand if and how you spend your savings from coupon redemption, on your grocery-purchases. Please be aware that this study is being done exclusively as part of my degree requirements, and has no commercial connection. Although your participation is voluntary, it is invaluable. So please indicate your responses by completing the questionnaire, which will take about 30 minutes to complete.

Your responses will be kept confidential, so please do not put your identification information on this survey. Moreover, I will keep your identity anonymous by destroying your contact information as soon as the study is completed. This research has been approved by UNT Institutional Review Board (940) 565-3940. Contact the UNT IRB with any questions regarding your rights as a research subject.

If you have any questions regarding this study, please contact the Principal Investigator Mr. Somjit Barat (barats@unt.edu) of the UNT Department of Marketing and Logistics at (940) 565-3120.

As a student, I am really unable to compensate you for your time and help. However, I would like to thank you once again for your cooperation.

NOTE: It is important that the questionnaire be completed by the person primarily responsible for grocery shopping in your household. Your answers to ALL of the questions in this questionnaire should be based only on **grocery coupons** that you redeem at your **most-frequented** grocery store. Moreover, limit your responses to only edible grocery products. Finally, please ignore non-grocery coupons, coupons that are redeemable only online, loyalty card programs, and mail-in-rebates.

A. At which store do you buy your groceries **most of the time**? Please write the name of the store:

_____

B. When shopping for groceries, I redeem the following type(s) of coupons (please select all that apply):

- ☐ coupons I previously collected from magazines, newspapers, mailings, door-knob fliers, or those I printed off the Internet and bring to the store on my grocery shopping trip
- ☐ coupons that I collect from ads at the store itself right before I start my shopping
- ☐ instantly redeemable coupons that are available ONLY at the aisle and/or checkout counter on my grocery shopping trip
- ☐ other type(s) of coupons (please specify) _____

C. The following questions measure your grocery purchase and coupons redemption behavior. Please select **only one** option in case:

When you see a coupon for a common grocery product (milk, juice, soft drinks), how **likely** are you to redeem that coupon?	Never	Rarely	Sometimes	Almost always	Always
On an average, how frequently do you go grocery shopping?	Once every 3 weeks or less	Once every two weeks	Once a week	2 times per week	3 or more times per week
On an average, how many grocery coupons do you redeem **per trip**?	1-2	3-5	6-8	9-12	More than 12

D. The following statements try to capture your feelings when you see a coupon. How well do those statements relate to you? Please answer the following questions **by selecting only one option** in each case:

	Strongly Disagree				Strongly Agree
When I see a grocery coupon, I feel that I am getting a good deal	1	2	3	4	5
When I see a grocery coupon, I feel that the retailer or manufacturer wants to get rid of the overstock for that product	1	2	3	4	5
Redeeming grocery coupons makes me feel good	1	2	3	4	5
Collecting a grocery coupon is too troublesome for what it is worth	1	2	3	4	5
When I see a grocery coupon, I feel I will pay less for my purchases	1	2	3	4	5
If I see a grocery coupon, I feel that the product must not be very good, otherwise it should have sold just as well without the coupon	1	2	3	4	5
I do not think that keeping track of savings from grocery coupon redemption is worth the effort	1	2	3	4	5

I have favorite grocery brands, but most of the time I buy a brand I have a coupon for	1	2	3	4	5
I can utilize the time/effort spent on collecting and redeeming grocery coupons in doing other activities	1	2	3	4	5
When I redeem a grocery coupon, I feel I have more money left in my pocket	1	2	3	4	5
I enjoy using grocery coupons, regardless of the amount I save by doing so	1	2	3	4	5
There are things more important than redeeming grocery coupons	1	2	3	4	5
When I see a grocery coupon, I feel I have more 'disposable cash' left in my pocket	1	2	3	4	5
I enjoy clipping grocery coupons out of the newspaper/ catalog	1	2	3	4	5
I am too busy to collect grocery coupons	1	2	3	4	5
When I see a grocery coupon, I feel 'cheated', because the last time I bought this product without the coupon, I paid a higher price	1	2	3	4	5
When I see a grocery coupon, I feel I will be able to buy more	1	2	3	4	5
Time spent on collecting grocery coupons is not worth the money saved	1	2	3	4	5
Grocery coupons have caused me to buy products I normally would not buy	1	2	3	4	5
When I see a grocery coupon, I feel that the value of the brand/product is reduced	1	2	3	4	5
When I see a grocery coupon, I feel that it will save me money	1	2	3	4	5
Beyond the money I save, redeeming grocery coupons gives me a sense of joy	1	2	3	4	5
Savings from coupon redemption are too trivial to perceive	1	2	3	4	5
I am more likely to buy grocery brands for which I have a coupon	1	2	3	4	5
Only people who have nothing more important to do collect and redeem coupons	1	2	3	4	5

E. The following set of questions relate to your purchasing and saving propensities. Please circle **only one choice** in each case.

	Strongly Disagree				Strongly Agree
I often buy product(s) even though I do not need it/them	1	2	3	4	5
If I save money from coupons while shopping, I put it away so that I can spend it in the future	1	2	3	4	5
I do not buy more of something if I have enough of the item(s)	1	2	3	4	5
I often buy item(s) even though I cannot afford them	1	2	3	4	5
If I save money from coupons while shopping, I do not spend it right away	1	2	3	4	5
I do not buy anything beyond what I can store	1	2	3	4	5

I buy some item(s) in order to make myself feel better	1	2	3	4	5
If I save money from coupons while shopping, I put it in an 'extra money' pool permanently	1	2	3	4	5
I do not buy anything beyond what I can consume	1	2	3	4	5
I often buy product(s) simply because they are on sale	1	2	3	4	5
I do not buy too much of the same product, because doing so is inconvenient for me	1	2	3	4	5
If I save money from coupons while shopping, I put it in a 'discretionary spending' pool	1	2	3	4	5
I occasionally go on a buying binge	1	2	3	4	5
I do not buy too much of the same thing(s) because I get bored of consuming those	1	2	3	4	5
I feel anxious or nervous on days that I do not go shopping	1	2	3	4	5
I do not buy too much of the same product(s), because doing so forces me to consume more than what I would normally do	1	2	3	4	5
I feel that having more money would solve most of my problems	1	2	3	4	5
If I buy more than what I need, it goes to waste	1	2	3	4	5

F. The following are a series of comments that describe you as a person. Please circle **only one choice** in each case below.

	Strongly Disagree				Strongly Agree
People view me as someone who does things out of the ordinary just for fun	1	2	3	4	5
I like to experience novelty and change in my daily routine	1	2	3	4	5
Once I make a choice on which product(s) to purchase, I am likely to continue to buy it/those without considering other alternatives	1	2	3	4	5
I like to touch and feel a sculpture	1	2	3	4	5
I generally buy the same grocery products I have always bought	1	2	3	4	5
I do not like to plan out my activities in advance	1	2	3	4	5
I am always seeking new ideas and experiences	1	2	3	4	5
If I like a grocery product, I rarely switch from it to try something different	1	2	3	4	5
I like to be surprised	1	2	3	4	5
I do not like meeting people who have new ideas	1	2	3	4	5
Once I get used to a grocery product, I hate to switch	1	2	3	4	5
I am prone to doing unexpected things	1	2	3	4	5
I like to continually change activities	1	2	3	4	5
I like to look at pictures that are puzzling in some way	1	2	3	4	5
When things get boring I like to find some new and unfamiliar experience	1	2	3	4	5
I prefer people who are emotionally expressive	1	2	3	4	5

Even though certain products have several alternatives, I always tend to buy the same thing	1	2	3	4	5
I prefer a life full of change	1	2	3	4	5
I would be particularly attracted to an art display featuring many interpretations of a single theme	1	2	3	4	5
I prefer an unpredictable life	1	2	3	4	5

G. Please respond to the following set of questions by circling **only one choice** in each case.

I intend to use the savings from coupon redemption to	Strongly Disagree				Strongly Agree
buy something 'special' on a future shopping trip	1	2	3	4	5
buy more of a product unrelated to the couponed product (e.g. with savings from coupon on milk, I buy canned beans)	1	2	3	4	5
buy more of the couponed product (e.g. with savings from coupon on milk, I buy more milk)	1	2	3	4	5
buy more of another product that goes with the couponed product (e.g. with savings from coupon on hot dog, I buy hot dog buns)	1	2	3	4	5
buy more of a similar (close substitutes) product (e.g. with savings from coupons on Kellog's *All Bran*, I buy Post's *Raisin Bran*)	1	2	3	4	5

H. The following categorical questions will be used only to test for differences among individuals and to group respondents based on their demographic data. Please choose only one response in each of the questions below:

1. What is your current status? ☐ Student (part time) ☐ Student (full time) ☐ Non-student

2. Sex: ☐ Male ☐ Female

3. How many members do you have in your household, including yourself (a 'household' is defined as a private dwelling unit, which includes all persons occupying a house/apartment together)?
   ☐ One ☐ Two ☐ Three ☐ Four ☐ More than four

4. What is your marital status? ☐ Single ☐ Married ☐ Divorced
   ☐ Widowed ☐ Living together

5. What is the average monthly income of your household (defined as the total average income earned or received by your household, with direct or indirect taxes deducted)?
   ☐ < $1,000 ☐ $ 1,001-$ 3,000 ☐ $ 3,001-$ 4,000
   ☐ $ 4,001-$ 6,000 ☐ $ 6,001-$ 8, 000 ☐ $ 8,001 and above

6. On an average, how much do you spend on your groceries per week?
   ☐ < $ 30 ☐ $ 30 or more but < $ 70 ☐ $ 70 or more but < $ 90
   ☐ $ 90 or more but < $ 110 ☐ $ 110 or more but < $ 130 ☐ $ 130 or more

7. Which of the following best describes your ethnicity?

☐ White ☐ African American ☐ Hispanic
☐ Asian ☐ American Indian ☐ Multiracial

8. What best describes your current residence? ☐ Rented apartment ☐ Private apartment/house ☐ Rented house

9. In which year were you born? 19_ _

I. Finally, the following question measures your grocery coupons redemption behavior for the products mentioned in the table below. For each of the items mentioned below, **how often do you redeem** coupons for that particular product?

Products/Categories	How often do you redeem coupons				
	Never	Rarely	Sometimes	Almost always	Always
Milk	1	2	3	4	5
Bread	1	2	3	4	5
Snacks (chips, munchies, cakes, cookies)	1	2	3	4	5
Cheese	1	2	3	4	5
Juice	1	2	3	4	5
Meat (beef, chicken, pork)	1	2	3	4	5
Frozen ready-to-eat	1	2	3	4	5
Soft drinks	1	2	3	4	5

APPENDIX C

FINAL LIST OF CONSTRUCTS

Construct	Description	Sample item	Alpha (at source, where available)	Items	Source
Arousal-seeking	excited, surprised, rewarded	I like to look at pictures that are puzzling in some way	0.76	9	Mehrabian and Russell (1974)
Compulsive Shopping	chronic buying episodes of a somewhat stereotyped fashion in which the consumer feels unable to stop or significantly moderate the behavior	I often buy item(s) even though I cannot afford them	0.95	7	Faber and O'Guinn (1989)
Coupon Proneness	how likely that the respondent redeems a coupon	I am more likely to buy grocery brands for which I have a coupon	0.88	7	Lichtenstein et al. (1990)
Devaluation Effect	coupon degrades the product in the consumer's mind	value of that brand is reduced	0.70*	4	author
Diminishing Returns	as more of a product is purchased, benefit from an additional unit decreases	If I buy more than what I need, it goes to waste	N/A	7	author
Income Effect	feeling of savings due to coupon	more money left in pocket at end of shopping trip	0.86*	6	author
Novelty-seeking	person's tendency to approach rather than avoid varied and novel experiences	I like to experience novelty and change in my daily routine	0.64	7	Mehrabian and Russell (1974)
Opportunity cost	time and effort involved in redeeming coupons	Collecting a grocery coupon is too troublesome for what it is worth	N/A	8	author
Savings Propensity	whether the person will keep the savings from coupon redemption	If I save some money on a shopping trip, I do not spend it right away	N/A	4	author
Switching Behavior	switching brand primarily for change or variety	Even though certain products have several alternatives, I always tend to buy the same thing	0.80	5	Raju (1980)

* from an earlier study by the author

APPENDIX D

TEXT OF FINAL QUESTIONNAIRE

UTA Coupon Redemption Behavior & Grocery Shopping

November 2006

Dear head of household,

Greetings from the University of Texas, Arlington! I am an Assistant Professor in the department of Marketing at UTA. I am conducting this study as part of my dissertation (research) to understand if and how you spend your savings from coupon redemption, on your grocery-purchases. The only requirements to participate in this study are: You must be 1. an adult, 2. have a source of income and 3. familiar with grocery coupons. You have been referred to this website through one of my students at UTA.

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose and benefits of the study and how it will be conducted.

Title of Study: An Empirical Investigation Of How Perceived Devaluation And Income Effects Influence Consumers' Intended Utilization Of Savings From Coupon Redemption

The purpose of the study is to find out if and how you spend your savings from coupon redemption on other grocery-purchases. You will be asked to indicate your responses by filling out the survey, which will take about twenty minutes of your time. No foreseeable risks are involved in this study. Your responses will be kept confidential, so please do not put your identification information on this survey. Moreover, I will keep your identity anonymous by destroying your responses as per Federal regulations.

Also, the confidentiality of your individual information will be maintained in any publications or presentations regarding this study, by reporting results only in the aggregate, i.e. no individual response will be linked to any individual participant. This research study has been reviewed and approved by the UTA Office of Research Integrity and Compliance. The office can be contacted at (817)272 3723 with any questions regarding the rights of research subjects.

By clicking on the 'NextPage' button below, you indicate that you have read or have had read to you all of the above and that you confirm all of the following:

Somjit Barat has explained the study to you and answered all of your questions.

You have been told the possible benefits and the potential risks and/or discomforts of the study.

You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.

You understand why the study is being conducted and how it will be performed.

You understand your rights as a research participant and you voluntarily consent to participate in this study.

One final note: in order for the UTA student to receive credit for this survey, please have the 3-digit code (provided to you by the student) handy. You will be asked to enter that code at the very beginning of the survey.

This study is being undertaken exclusively as part of my dissertaion and has no commercial interests whatsoever. A such, I am really unable to compensate you for your time and help. However, I would like to thank you once again for your cooperation.

Signed
SOMJIT BARAT (barats@uta.edu)

NOTE: It is important that the questionnaire be completed by the **person primarily responsible for grocery shopping** in your household. Your answers to ALL of the questions in this questionnaire should be based only on **grocery coupons** that you redeem at your **most-frequented** grocery store. Moreover, limit your responses to only edible grocery products. Finally, please ignore non-grocery coupons, coupons that are redeemable only online, loyalty card programs, and mail-in-rebates.

A. At which store do you buy your groceries **most of the time**? Please write the name of the store:

_____

B. When shopping for groceries, I redeem the following type(s) of coupons (please select all that apply):

☐ coupons I previously collected from magazines, newspapers, mailings, door-knob fliers, or those I printed off the Internet and bring to the store on my grocery shopping trip

☐ coupons that I collect from ads at the store itself right before I start my shopping

☐ instantly redeemable coupons that are available ONLY at the aisle and/or checkout counter on my grocery shopping trip

☐ other type(s) of coupons (please specify) _____

C. The following questions measure your grocery purchase and coupons redemption behavior. Please select **only one** option in case:

When you see a coupon for a common grocery product (milk, juice, soft drinks), how **likely** are you to redeem that coupon?	Never	Rarely	Sometimes	Almost always	Always		
On an average, how frequently do you go grocery shopping?	Once every 3 weeks or less	Once every two weeks	Once a week	2 times per week	3 or more times per week		
On an average, how many grocery coupons do you redeem per trip?	0	1	2	3	4	5	More than5

D. The following statements try to capture your feelings when you see a coupon. How well do those statements relate to you? Please answer the following questions **by selecting only one option** in each case:

	Strongly Disagree				Strongly Agree
When I see a grocery coupon, I feel that I am getting a good deal	1	2	3	4	5
When I see a grocery coupon, I feel that the retailer or manufacturer wants to get rid of the overstock for that product	1	2	3	4	5
Redeeming grocery coupons makes me feel good	1	2	3	4	5
Collecting a grocery coupon is too troublesome for what it is worth	1	2	3	4	5
When I see a grocery coupon, I feel I will pay less for my purchases	1	2	3	4	5
If I see a grocery coupon, I feel that the product must not be very good, otherwise it should have sold just as	1	2	3	4	5

well without the coupon					
I do not think that keeping track of savings from grocery coupon redemption is worth the effort	1	2	3	4	5
I have favorite grocery brands, but most of the time I buy a brand I have a coupon for	1	2	3	4	5
I can utilize the time/effort spent on collecting and redeeming grocery coupons in doing other activities	1	2	3	4	5
When I redeem a grocery coupon, I feel I have more money left in my pocket	1	2	3	4	5
I enjoy using grocery coupons, regardless of the amount I save by doing so	1	2	3	4	5
There are things more important than redeeming grocery coupons	1	2	3	4	5
When I see a grocery coupon, I feel I have more 'disposable cash' left in my pocket	1	2	3	4	5
I enjoy clipping grocery coupons out of the newspaper/ catalog	1	2	3	4	5
I am too busy to collect grocery coupons	1	2	3	4	5
When I see a grocery coupon, I feel 'cheated', because the last time I bought this product without the coupon, I paid a higher price	1	2	3	4	5
When I see a grocery coupon, I feel I will be able to buy more	1	2	3	4	5
Time spent on collecting grocery coupons is not worth the money saved	1	2	3	4	5
Grocery coupons have caused me to buy products I normally would not buy	1	2	3	4	5
When I see a grocery coupon, I feel that the value of the brand/product is reduced	1	2	3	4	5
When I see a grocery coupon, I feel that it will save me money	1	2	3	4	5
Beyond the money I save, redeeming grocery coupons gives me a sense of joy	1	2	3	4	5
Savings from coupon redemption are too trivial to perceive	1	2	3	4	5
I am more likely to buy grocery brands for which I have a coupon	1	2	3	4	5
Only people who have nothing more important to do collect and redeem coupons	1	2	3	4	5

E. The following set of questions relate to your purchasing and saving propensities. Please circle only one choice in each case.

	Strongly Disagree				Strongly Agree
I often buy product(s) even though I do not need it/them	1	2	3	4	5
If I save money from coupons while shopping, I put it away so that I can spend it in the future	1	2	3	4	5
I do not buy more of something if I have enough of the item(s)	1	2	3	4	5

I often buy item(s) even though I cannot afford them	1	2	3	4	5
If I save money from coupons while shopping, I do not spend it right away	1	2	3	4	5
I do not buy anything beyond what I can store	1	2	3	4	5
I buy some item(s) in order to make myself feel better	1	2	3	4	5
If I save money from coupons while shopping, I put it in an 'extra money' pool permanently	1	2	3	4	5
I do not buy anything beyond what I can consume	1	2	3	4	5
I often buy product(s) simply because they are on sale	1	2	3	4	5
I do not buy too much of the same product, because doing so is inconvenient for me	1	2	3	4	5
If I save money from coupons while shopping, I put it in a 'discretionary spending' pool	1	2	3	4	5
I occasionally go on a buying binge	1	2	3	4	5
I do not buy too much of the same thing(s) because I get bored of consuming those	1	2	3	4	5
I feel anxious or nervous on days that I do not go shopping	1	2	3	4	5
I do not buy too much of the same product(s), because doing so forces me to consume more than what I would normally do	1	2	3	4	5
I feel that having more money would solve most of my problems	1	2	3	4	5
If I buy more than what I need, it goes to waste	1	2	3	4	5

F. The following are a series of comments that describe you as a person. Please circle only one choice in each case below.

	Strongly Disagree				Strongly Agree
I like doing things just for the fun of it	1	2	3	4	5
I like to experience novelty and change in my daily routine	1	2	3	4	5
Once I make a choice on which product(s) to purchase, I am likely to continue to buy it/those without considering other alternatives	1	2	3	4	5
I like to touch and feel a sculpture	1	2	3	4	5
I generally buy the same grocery products I have always bought	1	2	3	4	5
Acting spontaneously makes life more enjoyable	1	2	3	4	5
I am always seeking new ideas and experiences	1	2	3	4	5
If I like a grocery product, I rarely switch from it to try something different	1	2	3	4	5
I like surprises	1	2	3	4	5
I do not like meeting people who have new ideas	1	2	3	4	5
Once I get used to a grocery product, I hate to switch	1	2	3	4	5
I am attracted to unexpected experiences	1	2	3	4	5

I like to continually change activities	1	2	3	4	5
I like to look at pictures that are puzzling in some way	1	2	3	4	5
When things get boring I like to find some new and unfamiliar experience	1	2	3	4	5
I prefer people who are emotionally expressive	1	2	3	4	5
Even though certain products have several alternatives, I always tend to buy the same thing	1	2	3	4	5
I prefer a routine way of life to one full of change	1	2	3	4	5
I would be particularly attracted to an art display featuring many interpretations of a single theme	1	2	3	4	5
I prefer a routine way of life to an unpredictable one	1	2	3	4	5
I like doing things out of the ordinary	1	2	3	4	5

G. Please respond to the following set of questions by circling only one choice in each case.

I intend to use the savings from coupon redemption to	Strongly Disagree				Strongly Agree
buy something 'special' on a future shopping trip	1	2	3	4	5
buy more of a product unrelated to the couponed product (e.g. with savings from coupon on milk, I buy canned beans)	1	2	3	4	5
buy more of the couponed product (e.g. with savings from coupon on milk, I buy more milk)	1	2	3	4	5
buy more of another product that goes with the couponed product (e.g. with savings from coupon on hot dog, I buy hot dog buns)	1	2	3	4	5
buy more of a similar (close substitutes) product (e.g. with savings from coupons on Kellog's *All Bran*, I buy Post's *Raisin Bran*)	1	2	3	4	5

H. The following categorical questions will be used only to test for differences among individuals and to group respondents based on their demographic data. Please choose only <u>one</u> response in each of the questions below:

1. What is your current status (select ALL that apply)? ☐ Student (part time) ☐ Student (full time) ☐ Working (part time) ☐ Working (full time)

2. Sex: ☐ Male ☐ Female

3. How many members do you have in your household, including yourself (a 'household' is defined as a private dwelling unit, which includes all persons occupying a house/apartment together)?
☐ One ☐ Two ☐ Three ☐ Four ☐ More than four

4. What is your marital status? ☐ Single ☐ Married ☐ Divorced ☐ Widowed ☐ Living together

5. What is the average monthly income of your household (defined as the total average income earned or received by your household, with direct or indirect taxes deducted)?

☐ <= $1,000 ☐ $ 1,001-$ 3,000 ☐ $ 3,001-$ 4,000
☐ $ 4,001-$ 6,000 ☐ $ 6,001-$ 8, 000 ☐ $ 8,001 and above

6. On an average, how much do you spend on your groceries **per week?**

☐ < $ 30 ☐ $ 30 or more but < $ 70 ☐ $ 70 or more but < $ 90
☐ $ 90 or more but < $ 110 ☐ $ 110 or more but < $ 130 ☐ $ 130 or more

7. Which of the following best describes your ethnicity?

☐ White ☐ African American ☐ Hispanic
☐ Asian ☐ American Indian ☐ Multiracial

8. What best describes your current residence? ☐ Rented apartment ☐ Private apartment/house ☐ Rented house

9. In which year were you born? 19_ _

10. What is your zip code? _ _ _ _ _

I. Finally, the following question measures your grocery coupons redemption behavior for the products mentioned in the table below. For each of the items mentioned below, **how often do you redeem** coupons for that particular product?

Products/Categories	How often do you redeem coupons				
	Never	Rarely	Sometimes	Almost always	Always
Milk	1	2	3	4	5
Bread	1	2	3	4	5
Snacks (chips, munchies, cakes, cookies)	1	2	3	4	5
Cheese	1	2	3	4	5
Juice	1	2	3	4	5
Meat (beef, chicken, pork)	1	2	3	4	5
Frozen ready-to-eat	1	2	3	4	5
Soft drinks	1	2	3	4	5

APPENDIX E

RESULTS OF NORMALITY TESTS

	N	Mean	Median	Mode	SD	Skewness	Kurtosis
When you see a coupon for a common grocery product (milk, juice, soft drinks), how likely are you to redeem that coupon?	2396	2.95	3.00	3.00	1.13	-0.02	-0.69
When I see a grocery coupon, I feel that I am getting a good deal	2409	3.32	3.00	3.00	1.16	-0.27	-0.66
When I see a grocery coupon, I feel that the retailer or manufacturer wants to get rid of the overstock for that product	2410	2.51	2.00	2.00	1.25	0.44	-0.83
Redeeming grocery coupons makes me feel good	2401	3.38	3.00	3.00	1.23	-0.34	-0.81
Collecting a grocery coupon is too troublesome for what it is worth	2399	2.84	3.00	3.00	1.32	0.16	-1.10
When I see a grocery coupon, I feel I will pay less for my purchases	2401	3.61	4.00	4.00	1.13	-0.55	-0.46
If I see a grocery coupon, I feel that the product must not be very good, otherwise it should have sold just as well without the coupon	2406	2.18	2.00	1.00	1.20	0.76	-0.41
I do not think that keeping track of savings from grocery coupon redemption is worth the effort	2400	3.01	3.00	3.00	1.32	-0.03	-1.10
I have favorite grocery brands, but most of the time I buy a brand I have a coupon for	2403	2.73	3.00	3.00	1.28	0.19	-1.04
I can utilize the time/effort spent on collecting and redeeming grocery coupons in doing other activities	2409	3.11	3.00	3.00	1.26	-0.06	-0.95
When I redeem a grocery coupon, I feel I have more money left in my pocket	2407	3.40	3.00	4.00	1.19	-0.35	-0.74
I enjoy using grocery coupons, regardless of the amount I save by doing so	2409	2.81	3.00	3.00	1.30	0.16	-1.04
There are things more important than redeeming grocery coupons	2409	3.50	4.00	4.00	1.24	-0.42	-0.83
When I see a grocery coupon, I feel I have more 'disposable cash' left in my pocket	2403	3.12	3.00	3.00	1.19	-0.10	-0.85
I enjoy clipping grocery coupons out of the newspaper/ catalog	2404	2.62	3.00	1.00	1.33	0.27	-1.10
I am too busy to collect grocery coupons	2400	3.09	3.00	3.00	1.35	-0.07	-1.19
When I see a grocery coupon, I feel 'cheated', because the last time I bought this product without the coupon, I paid a higher price	2405	2.73	3.00	3.00	1.25	0.20	-0.95
When I see a grocery coupon, I feel I will be able to buy more	2405	3.11	3.00	3.00	1.19	-0.12	-0.83
Time spent on collecting grocery coupons is not worth the money saved	2405	2.85	3.00	2.00	1.34	0.19	-1.13
Grocery coupons have caused me to buy products I normally would not buy	2399	3.01	3.00	4.00	1.30	-0.10	-1.12
When I see a grocery coupon, I feel that the value of the brand/product is reduced	2403	2.40	2.00	2.00	1.16	0.51	-0.59
When I see a grocery coupon, I feel that it will save me money	2404	3.60	4.00	4.00	1.09	-0.55	-0.34
Beyond the money I save, redeeming grocery coupons gives me a sense of joy	2398	2.83	3.00	3.00	1.26	0.09	-0.96
Savings from coupon redemption are too trivial to perceive	2394	2.83	3.00	3.00	1.19	0.13	-0.82
I am more likely to buy grocery brands for which I have a coupon	2397	3.11	3.00	4.00	1.26	-0.18	-1.00
Only people who have nothing more important to do collect and redeem coupons	2399	2.41	2.00	1.00	1.31	0.51	0.89

I often buy product(s) even though I do not need it/them	2405	2.58	2.00	1.00	1.34	0.36	-1.12
If I save money from coupons while shopping, I put it away so that I can spend it in the future	2402	2.44	2.00	1.00	1.28	0.44	-0.92
I do not buy more of something if I have enough of the item(s)	2397	3.33	3.00	4.00	1.25	-0.27	-0.97
I often buy item(s) even though I cannot afford them	2393	2.39	2.00	1.00	1.28	0.53	-0.86
If I save money from coupons while shopping, I do not spend it right away	2398	2.92	3.00	3.00	1.18	0.03	-0.75
I do not buy anything beyond what I can store	2399	3.39	4.00	4.00	1.24	-0.32	-0.92
I buy some item(s) in order to make myself feel better	2390	2.94	3.00	4.00	1.32	-0.07	-1.15
If I save money from coupons while shopping, I put it in an 'extra money' pool permanently	2395	2.17	2.00	1.00	1.21	0.73	-0.50
I do not buy anything beyond what I can consume	2399	3.09	3.00	3.00	1.25	-0.04	-1.02
I often buy product(s) simply because they are on sale	2391	3.01	3.00	4.00	1.29	-0.11	-1.10
I do not buy too much of the same product, because doing so is inconvenient for me	2399	3.03	3.00	3.00	1.23	-0.07	-0.98
If I save money from coupons while shopping, I put it in a 'discretionary spending' pool	2399	2.26	2.00	1.00	1.17	0.60	-0.56
I occasionally go on a buying binge	2396	2.88	3.00	3.00	1.29	0.00	-1.09
I do not buy too much of the same thing(s) because I get bored of consuming those	2396	2.83	3.00	3.00	1.18	0.11	-0.86
I feel anxious or nervous on days that I do not go shopping	2391	1.93	1.00	1.00	1.21	1.07	-0.01
I do not buy too much of the same product(s), because doing so forces me to consume more than what I would normally do	2401	2.77	3.00	3.00	1.27	0.13	-1.04
I feel that having more money would solve most of my problems	2404	3.30	3.00	5.00	1.37	-0.27	-1.14
If I buy more than what I need, it goes to waste	2403	3.24	3.00	4.00	1.28	-0.25	-0.99
I like doing things just for the fun of it	2401	3.65	4.00	4.00	1.22	-0.70	-0.43
I like to experience novelty and change in my daily routine	2397	3.43	4.00	4.00	1.15	-0.38	-0.60
Once I make a choice on which product(s) to purchase, I am likely to continue to buy it/those without considering other alternatives	2403	3.15	3.00	4.00	1.18	-0.15	-0.86
I like to touch and feel a sculpture	2400	3.08	3.00	3.00	1.22	-0.12	-0.87
I generally buy the same grocery products I have always bought	2397	3.59	4.00	4.00	1.06	-0.58	-0.21
Acting spontaneously makes life more enjoyable	2402	3.57	4.00	4.00	1.07	-0.49	-0.29
I am always seeking new ideas and experiences	2393	3.60	4.00	4.00	1.07	-0.48	-0.32
If I like a grocery product, I rarely switch from it to try something different	2399	3.29	3.00	4.00	1.14	-0.23	-0.74
I like surprises	2396	3.58	4.00	4.00	1.15	-0.51	-0.49
I do not like meeting people who have new ideas	2394	2.23	2.00	1.00	1.21	0.72	-0.46
Once I get used to a grocery product, I hate to switch	2406	3.18	3.00	4.00	1.23	-0.17	-0.93
I am attracted to unexpected experiences	2398	3.14	3.00	3.00	1.11	-0.13	-0.63
I like to continually change activities	2390	3.14	3.00	3.00	1.09	-0.07	-0.59
I like to look at pictures that are puzzling in some way	2401	3.25	3.00	3.00	1.14	-0.27	-0.66
When things get boring I like to find some new and unfamiliar experience	2393	3.46	4.00	4.00	1.07	-0.45	-0.29

I prefer people who are emotionally expressive	2398	3.31	3.00	3.00	1.09	-0.28	-0.49
Even though certain products have several alternatives, I always tend to buy the same thing	2398	3.27	3.00	4.00	1.09	-0.28	-0.58
I prefer a routine way of life to one full of change	2397	3.08	3.00	3.00	1.12	-0.04	-0.72
I would be particularly attracted to an art display featuring many interpretations of a single theme	2395	3.20	3.00	3.00	1.09	-0.23	-0.47
I prefer a routine way of life to an unpredictable one	2402	3.16	3.00	3.00	1.12	-0.11	-0.72
I like doing things out of the ordinary	2398	3.39	3.00	3.00	1.07	-0.33	-0.44

APPENDIX F-1

CONVERGENT AND DISCIRIMINANT VALIDITY TEST RESULTS

	F1	F4	F6	F9	F12	F14	F16	F19	F21	E1	E4	E7	E10	E13	E15	E17	D3	D8	D11	D14	D19	D22	D24
F1	1.00																						
F4	0.20	1.00																					
F6	0.45	0.24	1.00																				
F9	0.38	0.24	0.45	1.00																			
F12	0.34	0.29	0.41	0.41	1.00																		
F14	0.28	0.29	0.27	0.29	0.38	1.00																	
F16	0.23	0.20	0.26	0.25	0.28	0.28	1.00																
F19	0.19	0.32	0.25	0.26	0.30	0.35	0.27	1.00															
F21	0.37	0.26	0.46	0.42	0.46	0.38	0.28	0.31	1.00														
E1	0.17	0.08	0.06	0.09	0.16	0.10	0.09	0.10	0.08	1.00													
E4	0.02	0.12	0.02	0.03	0.15	0.11	0.07	0.08	0.06	0.39	1.00												
E7	0.23	0.13	0.15	0.14	0.20	0.17	0.17	0.17	0.17	0.32	0.35	1.00											
E10	0.15	0.12	0.11	0.12	0.13	0.14	0.13	0.10	0.17	0.38	0.27	0.28	1.00										
E13	0.21	0.16	0.17	0.15	0.26	0.16	0.17	0.16	0.18	0.37	0.34	0.39	0.32	1.00									
E15	-0.07	0.14	-0.08	-0.01	0.08	0.04	0.02	0.07	0.01	0.29	0.40	0.23	0.21	0.27	1.00								
E17	0.21	0.11	0.21	0.17	0.20	0.12	0.10	0.13	0.18	0.14	0.22	0.23	0.18	0.22	0.05	1.00							
D3	0.15	0.11	0.15	0.17	0.10	0.11	0.15	0.11	0.14	0.09	0.01	0.08	0.21	0.13	-0.05	0.12	1.00						
D8	-0.03	0.06	0.01	0.05	0.09	0.06	0.01	0.07	0.03	0.16	0.15	0.10	0.25	0.13	0.21	0.08	0.29	1.00					
D11	0.12	0.10	0.05	0.14	0.12	0.10	0.10	0.10	0.10	0.19	0.11	0.07	0.24	0.13	0.12	0.08	0.46	0.40	1.00				
D14	0.01	0.12	0.02	0.11	0.06	0.09	0.06	0.11	0.05	0.16	0.14	0.08	0.22	0.12	0.22	0.04	0.37	0.39	0.50	1.00			
D19	0.10	0.09	0.08	0.08	0.12	0.08	0.12	0.10	0.10	0.32	0.16	0.21	0.35	0.24	0.17	0.10	0.22	0.26	0.20	0.20	1.00		
D22	0.01	0.13	0.05	0.11	0.09	0.11	0.08	0.11	0.09	0.16	0.16	0.11	0.26	0.17	0.21	0.09	0.48	0.37	0.49	0.51	0.22	1.00	
D24	0.07	0.09	0.06	0.12	0.10	0.13	0.08	0.13	0.13	0.22	0.11	0.15	0.32	0.17	0.12	0.11	0.38	0.52	0.42	0.39	0.35	0.43	1.00
D2	-0.01	0.08	0.02	-0.01	0.12	0.07	0.01	0.10	0.03	0.17	0.21	0.12	0.06	0.12	0.26	0.10	-0.08	0.13	0.04	0.01	0.04	0.02	0.03
D6	-0.06	0.10	-0.07	-0.05	0.09	0.06	-0.04	0.03	-0.01	0.16	0.29	0.11	0.08	0.08	0.39	0.03	-0.19	0.15	0.02	0.04	0.05	0.06	-0.01
D16	0.00	0.09	0.02	0.03	0.07	0.08	0.04	0.07	0.01	0.17	0.22	0.14	0.17	0.09	0.22	0.14	0.08	0.14	0.11	0.12	0.16	0.17	0.14
D20	-0.07	0.04	-0.06	0.01	0.09	0.06	-0.02	0.02	-0.01	0.18	0.27	0.13	0.13	0.11	0.38	0.03	-0.07	0.17	0.11	0.10	0.16	0.17	0.09
E3	0.07	0.05	0.08	0.07	0.05	0.07	0.08	0.08	0.06	-0.08	-0.04	-0.05	-0.09	-0.07	-0.08	0.08	0.04	-0.03	0.03	-0.01	-0.05	-0.05	-0.03
E6	0.05	0.03	0.06	0.05	-0.01	0.07	0.09	0.07	0.06	-0.16	-0.15	-0.08	-0.11	-0.13	-0.08	-0.01	0.07	0.04	0.03	0.03	-0.01	-0.01	0.04
E9	-0.03	0.06	0.02	0.03	0.02	0.02	0.08	0.10	0.02	-0.15	-0.08	-0.09	-0.08	-0.14	0.03	0.04	0.03	0.03	0.08	0.05	-0.08	0.02	0.00
E11	0.13	0.04	0.06	0.04	0.08	0.06	0.08	0.10	0.04	0.04	0.01	-0.01	-0.01	-0.03	0.01	0.06	0.02	0.02	0.10	-0.04	0.01	-0.02	0.00
E14	0.04	0.08	0.06	0.02	0.12	0.10	0.11	0.09	0.09	0.11	0.10	0.10	0.03	0.11	0.21	0.10	-0.01	0.08	0.04	0.03	0.06	0.04	0.04
E16	0.05	0.10	0.08	0.08	0.15	0.09	0.10	0.12	0.08	0.12	0.17	0.11	0.10	0.13	0.25	0.16	0.03	0.15	0.08	0.08	0.11	0.12	0.11
E18	0.11	0.07	0.11	0.09	0.08	0.06	0.09	0.09	0.11	0.02	0.07	0.05	0.01	0.06	0.04	0.13	0.02	0.02	0.01	-0.03	0.05	0.01	0.02

	F1	F4	F6	F9	F12	F14	F16	F19	F21	E1	E4	E7	E10	E13	E15	E17	D3	D8	D11	D14	D19	D22	D24
D1	0.17	0.11	0.14	0.16	0.10	0.10	0.13	0.11	0.12	0.14	-0.01	0.06	0.22	0.09	-0.05	0.14	0.58	0.30	0.47	0.34	0.21	0.38	0.38
D5	0.16	0.10	0.13	0.16	0.10	0.13	0.15	0.08	0.14	0.07	-0.04	0.04	0.17	0.09	-0.10	0.13	0.51	0.22	0.34	0.25	0.17	0.30	0.32
D10	0.15	0.11	0.16	0.16	0.10	0.15	0.15	0.12	0.16	0.07	0.02	0.04	0.20	0.11	-0.01	0.13	0.53	0.32	0.44	0.34	0.18	0.43	0.39
D13	0.12	0.12	0.13	0.15	0.11	0.12	0.11	0.13	0.13	0.12	0.10	0.09	0.22	0.16	0.10	0.13	0.46	0.33	0.49	0.40	0.20	0.50	0.41
D17	0.11	0.08	0.11	0.15	0.11	0.13	0.10	0.13	0.12	0.15	0.13	0.12	0.26	0.17	0.13	0.20	0.39	0.37	0.43	0.41	0.23	0.45	0.42
D21	0.14	0.08	0.15	0.18	0.06	0.15	0.13	0.10	0.14	0.07	-0.02	0.04	0.18	0.08	-0.08	0.12	0.48	0.26	0.40	0.35	0.21	0.42	0.40
F21	0.55	0.26	0.46	0.40	0.44	0.29	0.26	0.23	0.45	0.14	0.06	0.17	0.14	0.17	-0.02	0.16	0.12	0.02	0.11	0.04	0.12	0.05	0.08
F7	0.39	0.24	0.60	0.46	0.40	0.31	0.24	0.27	0.49	0.10	0.02	0.13	0.14	0.13	-0.08	0.24	0.15	0.04	0.11	0.05	0.07	0.08	0.11
F13	0.33	0.26	0.39	0.41	0.59	0.42	0.25	0.26	0.51	0.15	0.14	0.17	0.16	0.23	0.10	0.17	0.11	0.11	0.13	0.08	0.12	0.13	0.13
F15	0.36	0.22	0.41	0.36	0.47	0.44	0.34	0.32	0.50	0.08	0.05	0.16	0.12	0.19	-0.05	0.20	0.13	0.01	0.10	0.05	0.07	0.08	0.09
rev_F10	0.14	-0.01	0.15	0.15	0.06	0.07	0.10	0.03	0.10	-0.19	-0.27	-0.11	-0.11	-0.08	-0.40	-0.01	0.04	-0.14	-0.07	-0.15	-0.07	-0.13	-0.08
rev_F18	0.02	0.00	0.10	0.08	0.15	0.06	-0.04	-0.02	0.17	-0.06	-0.08	-0.02	-0.06	-0.02	-0.08	-0.05	-0.07	0.00	-0.07	-0.03	-0.04	-0.07	-0.04
rev_F20	0.02	0.04	0.11	0.08	0.19	0.08	-0.01	0.01	0.16	-0.05	-0.06	-0.02	-0.07	0.02	-0.06	-0.05	-0.07	-0.01	-0.08	-0.06	-0.05	-0.08	-0.05
D4	0.08	0.05	0.06	0.03	0.07	0.06	0.04	0.04	0.07	0.07	0.10	0.11	-0.02	0.08	0.08	0.04	-0.26	-0.20	-0.28	-0.33	0.00	-0.27	-0.23
D7	0.09	0.02	0.06	-0.02	0.08	0.06	0.05	0.01	0.04	0.06	0.08	0.12	0.00	0.08	0.10	0.03	-0.20	-0.17	-0.20	-0.28	-0.01	-0.26	-0.20
D9	0.17	0.07	0.10	0.03	0.12	0.08	0.09	0.06	0.08	0.06	0.09	0.14	0.03	0.10	0.03	0.10	-0.16	-0.16	-0.21	-0.31	-0.02	-0.25	-0.17
D12	0.21	0.01	0.14	0.06	0.10	0.07	0.10	0.04	0.11	-0.01	-0.02	0.09	-0.04	0.05	-0.11	0.07	-0.11	-0.19	-0.17	-0.30	0.02	-0.26	-0.12
D15	0.10	0.03	0.07	0.02	0.07	0.02	0.03	0.02	0.02	0.05	0.11	0.12	-0.02	0.05	0.05	0.08	-0.25	-0.22	-0.32	-0.43	-0.03	-0.31	-0.24
D18	0.14	0.03	0.06	0.01	0.13	0.00	0.06	0.03	0.05	0.10	0.08	0.08	-0.04	0.06	0.08	0.04	-0.28	-0.22	-0.29	-0.38	0.02	-0.31	-0.26
D23	0.00	0.04	0.00	-0.01	0.09	0.03	0.02	0.01	0.01	0.07	0.17	0.09	-0.01	0.08	0.16	0.06	-0.24	-0.12	-0.22	-0.26	0.01	-0.22	-0.18
D25	-0.02	0.05	-0.01	-0.04	0.11	0.04	0.02	0.04	0.03	0.09	0.22	0.10	0.02	0.08	0.27	0.08	-0.27	-0.07	-0.20	-0.21	0.02	-0.15	-0.16
E2	-0.03	0.11	0.00	0.05	0.10	0.08	0.04	0.09	0.07	0.22	0.20	0.08	0.13	0.11	0.31	0.04	0.15	0.31	0.31	0.32	0.13	0.34	0.28
E5	-0.02	0.04	0.00	0.01	0.04	0.08	0.12	0.09	0.04	-0.01	0.06	-0.01	0.07	-0.01	0.13	0.02	0.15	0.16	0.20	0.22	0.06	0.23	0.19
E8	-0.11	0.12	-0.04	-0.01	0.11	0.06	0.03	0.10	0.01	0.18	0.29	0.15	0.14	0.12	0.44	0.04	0.03	0.27	0.20	0.28	0.09	0.27	0.16
E12	-0.09	0.10	-0.03	-0.01	0.14	0.07	0.00	0.09	0.01	0.19	0.27	0.09	0.14	0.17	0.43	0.03	0.05	0.29	0.21	0.26	0.10	0.27	0.20
F3	0.21	0.12	0.10	0.11	0.09	0.09	0.07	0.05	0.07	0.10	0.16	0.14	0.11	0.12	0.10	0.15	0.04	-0.02	0.04	-0.01	0.07	0.06	-0.02
F5	0.21	0.09	0.20	0.11	0.01	0.06	0.09	0.06	0.10	-0.01	-0.01	0.04	0.07	0.05	-0.09	0.17	0.11	-0.04	0.04	-0.02	0.04	0.03	0.02
F8	0.11	0.07	0.07	0.09	0.00	0.04	0.04	0.03	0.00	0.07	0.09	0.08	0.05	0.06	0.05	0.13	0.08	-0.04	0.04	0.01	0.03	0.01	-0.02
F11	0.18	0.07	0.05	0.04	0.14	0.06	0.07	0.07	0.01	0.15	0.11	0.08	0.10	0.12	0.07	0.15	0.05	0.00	0.13	0.01	0.09	0.06	0.04
F17	0.15	0.06	0.09	0.08	0.03	0.10	0.10	0.11	0.10	0.07	0.10	0.09	0.11	0.10	0.03	0.15	0.07	-0.01	0.08	-0.01	0.05	0.05	0.03

	D2	D6	D16	D20	E3	E6	E9	E11	E14	E16	E18	D1	D5	D10	D13	D17	D21	F21	F7	F13	F15	rev_F10	rev_F18	rev_F20
D2	1.00																							
D6	0.45	1.00																						
D16	0.21	0.26	1.00																					
D20	0.37	0.46	0.22	1.00																				
E3	0.06	0.00	0.01	0.03	1.00																			
E6	0.05	0.00	0.00	-0.03	0.30	1																		
E9	0.12	0.11	0.08	0.07	0.29	0.41	1.00																	
E11	0.12	0.11	0.04	0.10	0.34	0.27	0.32	1.00																
E14	0.19	0.22	0.15	0.21	0.19	0.14	0.20	0.35	1.00															
E16	0.18	0.22	0.15	0.21	0.16	0.14	0.20	0.30	0.39	1.00														
E18	0.09	0.08	0.13	0.10	0.23	0.17	0.24	0.33	0.28	0.31	1.00													
D1	0.00	-0.11	0.07	-0.02	0.08	0.08	0.06	0.09	0.01	0.06	0.05	1.00												
D5	-0.05	-0.19	0.05	-0.07	0.09	0.09	0.03	0.04	-0.02	0.03	0.07	0.54	1.00											
D10	-0.03	-0.11	0.14	-0.04	0.06	0.10	0.05	0.04	0.01	0.08	0.04	0.51	0.53	1.00										
D13	0.01	-0.02	0.15	0.07	0.05	0.08	0.05	0.04	0.06	0.11	0.05	0.47	0.42	0.60	1.00									
D17	0.08	0.00	0.18	0.10	0.02	0.05	0.04	0.02	0.03	0.14	0.03	0.42	0.36	0.51	0.54	1.00								
D21	-0.10	-0.22	0.07	-0.08	0.07	0.10	0.01	0.02	-0.02	0.02	0.06	0.52	0.52	0.53	0.48	0.44	1.00							
F21	0.06	0.00	0.03	0.01	0.07	0.03	0.01	0.09	0.08	0.09	0.09	0.12	0.11	0.10	0.13	0.08	0.13	1.00						
F7	0.02	-0.07	0.02	-0.03	0.09	0.07	0.04	0.07	0.06	0.07	0.12	0.18	0.17	0.19	0.15	0.16	0.18	0.47	1.00					
F13	0.09	0.11	0.08	0.12	0.06	0.03	0.05	0.10	0.14	0.14	0.08	0.13	0.12	0.14	0.14	0.14	0.12	0.47	0.44	1				
F15	0.01	-0.04	0.03	-0.02	0.10	0.06	0.02	0.07	0.10	0.10	0.09	0.12	0.16	0.16	0.12	0.10	0.20	0.39	0.48	0.48	1.00			
rev_F10	-0.21	-0.31	-0.19	-0.26	0.01	0.03	-0.06	-0.05	-0.13	-0.17	-0.04	0.01	0.07	0.02	-0.02	-0.05	0.05	0.14	0.18	0.05	0.17	1.00		
rev_F18	-0.06	-0.06	-0.03	-0.04	-0.06	-0.05	-0.09	-0.09	-0.04	-0.03	-0.06	-0.09	-0.10	-0.09	-0.08	-0.06	-0.10	0.17	0.15	0.20	0.11	0.17	1.00	
rev_F20	-0.05	-0.04	-0.06	-0.06	-0.09	-0.10	-0.09	-0.09	-0.03	-0.04	-0.07	-0.10	-0.11	-0.09	-0.07	-0.04	-0.10	0.18	0.14	0.21	0.11	0.18	0.60	1.00

	F2	F7	F13	F15	rev_F10	rev_F18	rev_F20	D4	D7	D9	D12	D15	D18	D23	D25	E2	E5	E8	E12	F3	F5	F8	F11	F17
D4	0.08	0.05	0.09	0.04	-0.10	-0.04	-0.03	1.00																
D7	0.06	0.00	0.07	0.03	-0.09	-0.05	-0.08	0.50	1.00															
D9	0.12	0.07	0.08	0.06	-0.05	-0.07	-0.07	0.51	0.45	1.00														
D12	0.17	0.10	0.02	0.11	0.08	-0.04	-0.06	0.33	0.34	0.39	1.00													
D15	0.05	0.03	0.02	0.03	-0.07	-0.06	-0.05	0.50	0.44	0.50	0.40	1.00												
D18	0.09	0.02	0.06	0.05	-0.10	-0.07	-0.05	0.53	0.45	0.48	0.35	0.54	1.00											
D23	0.03	-0.02	0.06	-0.02	-0.16	-0.07	-0.08	0.46	0.41	0.44	0.30	0.46	0.52	1.00										
D25	0.03	-0.04	0.10	0.00	-0.23	-0.07	-0.06	0.42	0.38	0.37	0.21	0.43	0.48	0.49	1.00									
E2	0.05	0.01	0.12	0.02	-0.20	-0.04	-0.05	-0.12	-0.15	-0.08	-0.15	-0.15	-0.12	-0.04	0.03	1.00								
E5	0.02	0.05	0.04	0.03	-0.12	-0.09	-0.13	-0.05	-0.09	-0.07	-0.03	-0.09	-0.11	-0.02	-0.01	0.32	1.00							
E8	-0.01	-0.04	0.11	-0.03	-0.33	-0.07	-0.08	0.00	0.00	0.01	-0.15	-0.02	-0.01	0.11	0.19	0.51	0.27	1.00						
E12	0.00	-0.05	0.11	-0.03	-0.30	-0.10	-0.08	-0.04	-0.02	-0.01	-0.13	-0.05	-0.01	0.08	0.16	0.52	0.28	0.61	1.00					
F3	0.16	0.09	0.09	0.11	-0.11	-0.19	-0.16	0.13	0.10	0.15	0.12	0.14	0.16	0.12	0.12	0.00	0.01	0.06	0.02	1.00				
F5	0.10	0.20	0.03	0.14	0.03	-0.23	-0.25	0.09	0.08	0.10	0.15	0.08	0.11	0.07	-0.02	-0.06	0.03	-0.06	-0.07	0.39	1.00			
F8	0.04	0.09	0.00	0.01	-0.11	-0.27	-0.28	0.16	0.12	0.13	0.08	0.15	0.14	0.14	0.13	-0.03	0.00	0.03	0.00	0.42	0.43	1.00		
F11	0.05	0.05	0.07	0.05	-0.13	-0.30	-0.31	0.09	0.09	0.09	0.10	0.10	0.18	0.12	0.11	0.07	0.06	0.07	0.06	0.39	0.40	0.47	1.00	
F17	0.05	0.11	0.06	0.12	-0.06	-0.32	-0.28	0.10	0.10	0.10	0.11	0.09	0.12	0.10	0.06	0.00	0.04	-0.01	-0.02	0.40	0.45	0.43	0.43	1.00

APPENDIX F-2

FREE FACTOR-LOADING GOODNESS OF FIT INDICES AND DISCRMINANT ANALYSIS TEST RESULTS USING LISREL

Goodness of Fit Indices

Indices	X^2(df)	p-value	RMSEA[1]	NNFI[2]	CFI[3]	IFI[4]	ECVI[5]	NFI[6]	GFI[7]	AGFI[8]
Stage 1	2526.24	0.00	0.07	0.95	0.95	0.95	1.68	0.95	0.89	0.86
Stage 2	2084.42	0.00	0.08	0.87	0.89	0.89	1.18	0.88	0.90	0.87
Stage 3	2860.54	0.00	0.10	0.76	0.79	0.79	1.62	0.78	0.86	0.82

[1]Root Mean Square Error of Approximation; [2]Non-Normed Fit Index; [3]Comparative Fit Index; [4]Incremental Fit Index; [5]Expected Cross-Validation Index; [6]Normed Fit Index; [7]Goodness of Fit Index; [8]Adjusted GFI

Factors Correlation Matrix*

Stage 1	DE	IE	OC	CP
DE	(0.66)	0.00[1]	0.35	0.15
IE	-0.08	(0.85)	-0.37	0.71
OC	0.48	-0.44	(0.86)	-0.41
CP	0.12	0.85	-0.53	(0.81)
Stage 2	CS	AS	SP	
CS	(0.73)	0.31	0.30	
AS	0.49	(0.80)	0.09	
SP	0.36	0	(0.74)	
Stage 3	DR	SB	NS	
DR	(0.72)	0.21	0.04	
SB	0.29	(0.78)	-0.09[2]	
NS	0.17	0.09	(0.71)	

[1]non-significant; [2]significant; * numbers in parentheses are Cronbach's Alpha; numbers to the left of/below the diagonal are CFA *Phi* loadings; numbers to the right of the diagonal are Pearson correlation coefficients

REFERENCES

Ailawadi, Kusum, Donald Lehmann, and Scott Neslin (2001), "Market Response to a Major Policy Change in the Marketing Mix: Learning from Procter & Gamble's Value Pricing Strategy," *Journal of Marketing*, 65 (1), 44-61.

---- and Martin Fishbein (1980), *Understanding Attitudes and Predicting Social Behavior*, Prentice Hall Inc., New Jersey.

---- and Thomas J. Madden (1986), "Prediction of Goal-directed Behavior: Attitudes, Intentions, and Perceived Behavioral Control," *Journal of Experimental Social Psychology,* 22, 453-474.

----, Christine Timko and John B. White (1982), "Self-monitoring and the Attitude-Behavior Relation," *Journal of Personality and Social Psychology*, 42 (3), 426-435.

Alvarez, Begoña Alvarez and Rodolfo Vázquez Casielles (2005), "Consumer Evaluations of Sales Promotion: The Effect on Brand Choice," *European Journal of Marketing*, 39 (1/2), 54-72.

Amin, Sammy G. and Dinesh S. Dave (1993), "Consumer Response to Utilization of Comparison Prices in Retail Advertisements," *Journal of Applied Business Research*, 9 (2), 113-124.

Arkes, Hal R., Cynthia A. Joyner, Mark V. Pesso, and Jane G. Nash (1994), "The Psychology of Windfall Gains," *Organizational Behavior and Human Decision Processes*, 59 (3), 331–47.

Babakus, Emin, Peter Tat, and William Cunningham (1988), "Coupon Redemption: A Motivational Perspective," *The Journal of Consumer Marketing*, 5 (2), 37-45.

Bagozzi, Richard P (1981), "An Examination of the Validity of Two Models of Attitude," *Multivariate Behavioral Research*, 16 (3), 323-360.

----, ---- and Johann Baumgartner (1990), "The Level of Effort Required for Behavior as a Moderator of the Attitude-Behavior Relation," *European Journal of Social* Psychology, 20 (1), 45-59.

----, Hans Baumgartner, and Youjae Yi (1992), "State versus Action Orientation and the Theory of Reasoned Action: An application to Coupon Usage,' *Journal of Consumer Research,* 18 (4), 505-520.

----, ---- and ---- (1992), "Appraisal Processes in the Enactment of Intentions to use Coupons," *Psychology and Marketing*, 9 (6), 469-487.

Baker, Julie, Michael Levy and Dhruv Grewal (1992), "Approach to Making Retail Environmental Decisions," *Journal of Retailing*, 68 (4), 445-460.

Barat, Somjit (2003), "Are Coupons Really That Effective?" *Proceedings of the AMA Winter Educator's Conference,* Arizona, USA, February.

---- (2004), "Coupons: The Inside Scoop," *Proceedings of the AMA Winter Educator's Conference,* Texas, USA, February.

---- and Lilly Ye (2004), "Effects of Coupons on Consumer Purchase Behavior: A Meta-Analysis," *Proceedings, Academy of Marketing Science Annual Conference,* Florida, USA, May.

---- and Audhesh K. Paswan (2005), "Do Higher Face-value Coupons Cost More Than They are Worth in Increased Sales?" *Journal of Product and Brand Management,* 14 (6), 379-386.

Bawa, Kapil and Srini S. Srinivasan (1997), "Coupon Attractiveness and Coupon Proneness: A Framework for Modeling Coupon Redemption," *Journal of Marketing Research*, 34 (4), 517-525.

---- and Robert W. Shoemaker (1987), "The Coupon-Prone Consumer: Some Findings Based on Purchase Behavior Across Product Classes," *Journal of Marketing,* 51 (4), 99-110.

Bem, D. (1972), "Self-perception Theory," in L. Berkowitz ed., *Advances in Experimental Social Psychology*, New York: Academic Press, 1-62.

Bearden, William O. and Randall L. Rose (1990), "Attention to Social Comparison Information: An Individual D," *Journal of Consumer Research*, 16 (4), 461-472.

Bentler, Peter and George Speckart (1979), "Models of Attitude-Behavior Relations," *Psychological Review,* 86 (5), 452-464.

Blattberg, Robert C. and Scott A. Neslin (1989), "A Two-State Model of Purchase Incidence and Brand Choice,' *Marketing Science*, 10 (winter), 24-39.

Böhm-Bawerk, Eugen von (1973), *Value and Price: an Extract*. South Holland: Libertarian Press.

Bonfleild, E.H. (1974), "Attitude, Social Influence, Personal Norm, and Intention Interactions as Related to Brand Purchase Behavior," *Journal of Marketing Research,* 11 (November), 379-389.

Bonnici, Joseph, David P. Campbell, William B. Fredenberger, and Kathryn H. Hunnicutt (1996), "Consumer Issues in Coupon Usage: An Exploratory Analysis," *Journal of Applied Business Research,* 13 (1), 31-41.

Burton, S., Donald R. Lichtenstein, Richard G. Netemeyer, and Judith A. Garretson (1998), "A Scale for Measuring Attitude Toward Private Label Products and an Examination of Its Psychological and Behavioral Correlates," *Journal of the Academy of Marketing Science* 26 (4), 293-306.

Chandon, Pierre, Brian Wansink and Gilles Laurent (2000), "A Benefit Congruency Framework of Sales Promotion Effectiveness," *Journal of Marketing,* 64 (4), 65-81.

Chapman, Joe and Russ Wahlers (1999), "A Revision and Empirical Test of the Extended Price-Perceived Quality Model," *Journal of Marketing Theory and Practice*, 7 (3), 53-63.

Chen, Shih-Fen, Kent Monroe and Yung-Chien Lou (1998), "The Effects of Framing Price Promotion Messages on Consumers' Perceptions and Purchase Intentions," *Journal of Retailing,* 74 (3), 353-372.

Cheong, K.J. (1993), "Observations: Are Cents-Off Coupons Effective?" *Journal of Advertising Research,* 33 (2), 73-78.

Chiang, Jeongwen (1995), "Competing Coupon Promotions and Category Sales," *Marketing Science*, 14 (1), 105-122.

Churchill, Gilbert A., Jr. (1979), "A Paradigm for Developing Better Measures of Marketing Constructs," *Journal of Marketing Research,* 16 (1), 64-73.

Cronovich, Ron, Rennae Daneshvary, and R. Keith Schwer (1997), "The Determinants of Coupon Usage," *Applied Economics*, 29 (12), 1631-1641.

Curran, Patrick J., Stephen G. West, and John F. Finch (1996), "The Robustness of Test Statistics to Nonnormality and Specification Error in Confirmatory Factor Analysis," *Psychological Methods*, 1 (March), 16-29.

D'Astous, Alain (1990), "An Inquiry into the Compulsive Side of 'Normal' Consumers," *Journal of Consumer Policy,* 13 (1), 15-31.

Dabholkar, Pratibha A. and Richard P. Bagozzi (2002), "An Attitudinal Model of Technology-based Self-service: Moderating Effects of Consumer Traits and Situational Factors," *Journal of the Academy of Marketing Science,* 30 (3), 184-201.

Davis, Scott, J., Jeffrey Inman and Leigh McAlister (1992), "Promotion Has a Negative Effect on Brand Evaluations—or Does It? Additional Disconfirming Evidence," *Journal of Marketing Research,* 29 (1), 143-148.

Dhar, Sanjay K., Donald D. Morrison, and Jagmohan S. Raju (1996), "The Effect of Package Coupons on Brand Choice: An Epilogue on Profits," *Marketing Science,* 15 (2), 192-203.

---- and Jagmohan S. Raju (1998), "The Effects of Cross-Ruff Coupons on Sales and Profits," *Management Science*, 44 (11), 1501-1516.

Dmitriev, V.K. (1974), *Economic Essays on Value, Competition and Utility*, translated by D. Fry and D. M. Nuti ed., London: Cambridge University Press.

Dodson, Joe A., Alice M. Tybout and Brian Sternthal (1978), "Impact of Deals and Deal Retraction on Brand Switching," *Journal of Marketing Research,* 15 (1), 72-81.

Dong, D. and Kaiser, Harry M. (2005), "Coupon Redemption and Its Effect on Household Cheese Purchases," *American Journal of Agricultural Economics*, 87 (3), 689-702.

Doob, A., J. Karlsmith, J. Freedman, T. Landauer, and S. Tom (1969), "Effect of Iniial Selling Price on Subsequent Sales," *Journal of Personality and Social Psychology*, 11, 345-350.

Donovan, Robert J., John R. Rossiter, G. Marcoolyn, and A. Nesdale (1994), "Store Atmosphere and Purchasing Behavior," *Journal of Retailing*, 70 (3), 283-294.

Faber, Ronald J., and Thomas C. O'Guinn (1989), "Classifying Compulsive Consumers: Advances in the Development of a Diagnostic Tool," in *Advances in Consumer Research,* Thomas K. Srull, ed. Provo UT: Association for Consumer Research, (16), 738-744.

---- and ---- (1992), "A Clinical Screener for Compulsive Buying," *Journal of* Consumer *Research*, 19 (3), 459-469.

-----, Gary Christenson, Martina De Zwaan, and James Mitchell (1995), "Two Forms of Compulsive Consumption: Comorbidity of Compulsive Buying and Binge Eating," *Journal of* Consumer *Research,* 22 (3), 296-304.

Ferraro, Rosellina, Baba Shiv, and James R. Bettman (2005), "Let Us Eat and Drink, for Tomorrow We Shall Die: Effects of Mortality Salience and Self-Esteem on Self-Regulation in Consumer Choice," *Journal of Consumer Research*, 32 (1), 65-75.

Fetto, J. (2001), "Redeeming Value," *American Demographics*, 23 (10), 25.

Fishbein, Martin and Icek Ajzen (1975), *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research.* Reading: Addison-Wesley.

---- and Jaccard, J.J (1973), "Theoretical and Methodological Considerations in the Prediction of Family Planning Intentions and Behavior," *Representative Research in Social Psychology,* 4 (1), 37-51.

Fredericks, Arlene J. and Dennis J. Dossett (1983), "Attitude-Behavior Relations: A Comparison of the Fishbein-Ajzen and Bentler-Speckart Models," *Journal of Personality and Social Psychology,* 45 (3), 501-512.

Gaba, A and W Kip Viscusi (1998), "Differences in Subjective Risk Thresholds," *Management Science*, 44 (6), 801-811.

Garretson, Judith & Kenneth Clow (1999), "The Influence of Coupon Face Value on Service Quality Expectations, Risk Perceptions and Purchase Intention in the Dental Industry," *The Journal of Service Marketing*, 13 (1), 59-70.

Gaski, John F. and John R. Nevin (1985), "The Differential Effects of Exercised and Unexercised Power Sources in a Marketing Channel," *Journal of Marketing Research,* 2 (May), 130-142.

Gedenk, K. and Scott A. Neslin (1999), "The Role of Promotion in Determining Future Brand Loyalty: Its Effect on Purchase Event Feedback," *Journal of Retailing*, 75 (4), 433-459.

Golden, Linda L. & Mary R. Zimmer (1986), "Relationship Between Affect, Patronage, Frequency and Amount of Money Spent with a Comment Affect Scaling and Measurement," in *Advances in Consumer Research*, 13, R.J.Lutz, ed. Provo, UT: Association for Consumer Research, 53-57.

Gould, Brian W. (1997), "Consumer Promotion and Purchase Timing: The Case of Cheese," *Applied Economics*, 29 (4), 445-457.

Green, Corliss L. (1995), "Differential Responses to Retail Sales Promotions among African-American and Anglo-American Consumers," *Journal of Retailing,* 71 (1), 83-92.

---- (1996), "Ethnic Responses to Couponing: A Motivational Perspective," *Journal of Consumer Marketing,* 13 (2), 14-25.

Grewal, Dhruv & Howard Marmorstein (1994), "Market Price Variation and Consumers' Price Search Decisions for Durable Goods," *Journal of Consumer Research,* 21 (1), 452-460.

Heilman, Carrie, Kent Nakamoto and Ambar Rao (2002), "Pleasant Surprises: Consumer Response to Unexpected in-Store Coupons," *Journal of Marketing Research*, 39 (2), 242-252.

Henderson, C.M (1988), "The Interaction of Coupons with Price and Store Promotions," *Advances in Consumer Research,* 15 (1), 364-371.

Hirschman, Elizabeth C. (1980), "Innovativeness, Novelty-seeking and Consumer Creativity," *Journal of Consumer Research*, 7 (3), 283-296.

Hofstede, Geert and Michael Harris Bond (1988), "The Confucius Connection: From Cultural Roots to Economic Growth," *Organizational Dynamics*, 16 (4), 5-21.

Holbrook, Morris and Elizabeth Hirschman (1982), "The Experiential Aspects of Consumption: Consumer Fantasies, Feelings and Fun," *Journal of Consumer Research,* 9 (2), 32-40.

Huff, Lenard and Dana Alden (1998), "Sales Promotions: Standardization or Adaptation? A Multinational Study of Sales Promotion Management," working paper, University of Hawaii.

Huang, Yan and Harmen Oppewal (2006), "Why Consumers Hesitate to Shop Online: An Experimental Choice Analysis of Grocery Shopping and the Role of Delivery Fees," *International Journal of Retail & Distribution Management*, 34 (4/5), 334-354.

Inman, Jeffrey J. and Leigh McAlister (1994), "Do Coupon Expiration Dates Affect Consumer Behavior?" *Journal of Marketing Research*, 31 (3), 423-430.

---- and Russell S. Winer (1998), "Where the Rubber Meets the Road: A Model of in-Store Consumer Decision Making," working paper, University of Wisconsin-Madison School of Business.

Jayanti, Rama K. and Alvin C. Burns (1998), "The Antecedents of Preventive Health Care Behavior: An Empirical Study," *Journal of the Academy of Marketing Science,* 26 (1), 6-15.

Jöreskog, Karl G. and Dag Sörbom (1993), *LISREL 8: Structural Equation Modeling with the SIMPLIS Command Language*, Scientific Software International, Hillsdale, NJ.

Kashani, Kamran and John A. Quelch (1990), "Can Sales Promotion Go Global?" *Business Horizons,* 33 (3), 37-43.

Kaufman, Carol J. and Sigfredo A. Hernandez (1990), "Barriers to Coupon Use: A View from the Bodega," *Journal of Advertising Research,* 30 (5), 18-25.

Kreps, David M (1990), *A Course in Microeconomic Theory,* Princeton: Princeton University Press.

Kvanli, Alan H., Robert J. Pavur and Kellie R. Keeling (2003), "Introduction to Business Statistics: A Microsoft Excel Integrated Approach," 6 ed., Ohio: Southwestern.

Lamb, Charles W. Jr., Joseph F. Hair, Jr. and Carl McDaniel (2006), *Marketing*, Thomson-South-Western.

Laroche, Michel, Frank Pons, Nadia Zgolli, Marie-Cecile Cervellon and Chankon Kim (2003), "A Model of Consumer Response to Two Retail Sales Promotion Techniques," *Journal of* Business *Research,* 56 (7), 513-522.

Leclerc, France and John D.C. Little (1997), "Can Advertising Copy Make FSI Coupons More Effective?" *Journal of Marketing Research,* 34 (4), 473-484.

Lee, Chol and Robert T. Green (1991), "Cross-cultural Examination of the Fishbein Behavioral Intentions Model," *Journal of International Business Studies*, 22 (2), 289-305.

Leech, Nancy L., Karen C. Barrett and George A. Morgan (2005), "*SPSS for Intermediate Statistics: Use and Interpretation*." Mahwah: Lawrence Erlbaum Associates

Leone, R.P. and S.S. Srinivasan (1996), "Coupon Face Value: its Impact on Coupon Redemption, Brand Sales, and Brand Profitability," *Journal of Retailing*; 72 (3), 273-290.

Lichtenstein, Donald, Richard Netemeyer and Scott Burton (1990), "Distinguishing Coupon Proneness from Value Consciousness: An Acquisition-Transaction Utility Theory Perspective," *Journal of Marketing*, 54 (3), 54-67.

----, Nancy M. Ridgway and Richard G. Netemeyer (1993), "Price Perceptions and Consumer Shopping Behavior: A Field Study," *Journal of Marketing Research,* 30 (2), 234-247.

"A Look at Sales Promotion" (1977), *The Nielsen Researcher* (4), 2-14.

www.maps.huge.info, retrieved April 20, 2007.

Mansfield, Edwin and Gary Yohe (2000), *Microeconomics: Theory/Applications*. New York: Norton.

Manstead, A.S.R., Christine Proffitt, and J.L. Smart (1983), "Predicting and Understanding Mothers' Infant-feeding Intentions and Behavior: Testing the Theory of Reasoned Action," *Journal of Personality and Social Psychology,* 44 (April), 657-671.

Mehrabian, Albert and James A. Russell (1974), *An Approach to Environmental Psychology.* Cambridge: M.I.T. Press.

Mittal, Banwari (1994), "An Integrated Framework For Relating Diverse Consumer Characteristics To Supermarket Coupon Redemption," *Journal of Marketing Research,* 31 (4), 533-546.

Montaldo, Donna L. (2007), "About.com: Coupons/Bargains," (retrieved June 20, 2007), [available at http://couponing.about.com/od/localcoupons/a/2006couponusage.htm].

Mowen, John C. and Michael S. Minor (2001), *Consumer Behavior, A Framework.* Upper Saddle River: Prentice Hall.

Narasimhan, C. (1984), "A Price Discrimination Theory of Coupons," *Marketing Science,* 3 (2), 128-148.

Nelson, Oly N. and Chiew T. Moi (2005), "Consumer Behavioral Responses to Sales Promotion: The Role of Fear of Losing Face," *Asia Pacific Journal of Marketing and Logistics,* 17 (1), 32-50.

Neslin, Scott A. (1990), "A Market Response Model for Coupon Promotions," *Marketing Science,* 9 (2), 125-145.

---- and Darral G. Clarke (1987), "Relating the Brand Use Profile of Coupon Redeemers to Brand and Coupon Characteristics," *Journal of Advertising Research,* 27 (1), 23-32.

Neter, J., Willaim Wasserman and Michael H. Kutner (1983), *Applied Linear Regression Models*. Richard D. Irwin, Inc., Homewood, Illinois.

Nevo, A. and Catherine Wolfram (2002), "Why Do Manufacturers Issue Coupons? An Empirical Analysis of Breakfast Cereals," *Rand Journal of Economics,* 33 (2), 319-339.

Newswire (2005), (retrieved April 26, 2007), [available at http://www.prnewswire.com/cgi-bin/stories.pl?ACCT=104&STORY=/www/story/12-22-2006/0004496179&EDATE=]

Nunnally, Jum C. (1978), *Psychometric Theory,* 2nd ed., New York: McGraw-Hill

O'Guinn, Thomas C. and Ronald R. Faber (1989), "Compulsive Buying: A Phenomenological Exploration," *Journal of Consumer Research,* 16 (2), 147-157.

Oliver, Richard L. and Mikhael Shor (2003), "Digital Redemption of Coupons: Satisfying and Dissatisfying Effects of Promotion Codes," *Journal of Product and Brand Management,* 12 (2), 121-134.

Papatla, Purushottam and Lakshman Krishnamurthi (1996), "Measuring the Dynamic Effects of Promotions on Brand Choice," *Journal of Marketing Research*, 33 (1), 20-35.

Parkin, Michael (1996), *Microeconomics*. Boston: Addison-Wesley.

Passy, Charles and Sarah Collins (2001), "Catalog Critic: Making the List --- as Schools' Supply Lists Grow, Parents Get Shopping Fatigue; We Ask: Is it Easier Online?" *The Wall Street Journal,* August, 1.

Pinck, Alissa and Diedre Schremp (2006), "For the Love of the Deal: Consumers Rave about Deal Enjoyment of Using Coupons, As Well as Cost Savings," (retrieved January 28, 2006), [available at http://couponmonth.com/pages/news.htm].

Pindyck, Robert S. and Daniel L. Rubinfeld (1998), *Microeconomics.* Upper Saddle River: Prentice Hall.

Poser, Norman S. (2001), "Liability of Broker-dealers for Unsuitable Recommendations of Institutional Investors," *Brigham Young University Law Review*, 4, 1493.

Prentice, Robert M. (1962), "Coupon Promotions: How to Plan, Execute and Evaluate Retailer-redeemed Coupon Programs," *Association of National Advertisers, Inc.,* New York.

Raghubir, P. (1998), "Coupon Value: A signal for Price?" *Journal of Marketing Research*, 35 (3), 316-324.

Raju, P.S. (1980), "Optimum Stimulation Level: Its Relationship to Personality, Demographics, and Exploratory Behavior," *Journal of Consumer Research,* 7 (December), 272-282.

Raju, Jagmohan S., Sanjay K. Dhar, and Donald G. Morrison (1994), "The Effect of Package Coupons on Brand Choice," *Marketing Science,* 13 (2), 145-164.

Ramaswamy, R. and Srini S. Srinivasan (1998), "Coupon Characteristics and Redemption Intentions: A Segment-Level Analysis," *Psychology and Marketing,* 15 (1), 59-80.

"Recent Trends in Couponing" (1979), *The Nielsen Researcher,* (4), 9-12.

Reibstein, David J. and Traver, Phillis A. (1982), "Factors Affecting Coupon Redemption Rates," *Journal of Marketing,* 46 (Fall), 102-113.

Rindfleisch, Aric, James E. Burroughs, and Frank Denton (1997), "Family Structure, Materialism, and Compulsive Buying," *Journal of Consumer Research,* 23 (4), 312-325.

Rosenzweig, Claire (2006), "Brand Marketing: Aisle Be There (The Future of Coupons)," (retrieved May 13, 2006), [available at http://www.pmalink.org/about/index.php].

Saltzer, Eleanor B. (1978), "Locus of Control and the Intention to Lose Weight," *Health Education Monographs,* 6 (Spring), 118-128.

Samuelson, Larry (1986), *Microeconomic Theory.* Boston: Kluwer-Nijhoff Pub.

Samuelson, Paul A. and William D. Nordhaus (1995), *Microeconomics*. New York: McGraw-Hill, Inc.

Santella and Associates, (retrieved February 25, 2006), [available at http://www.santella.com/coupon.htm].

Santoli, Michael (2003), "The Trader: Anti-war Rally Lifts the Dow for the Week," *Barron's Chicopee*, 83 (11), MW3-6.

Sen, Sankar and Eric J. Johnson (1997), "Mere-Possession Effects without Possession in Consumer Choice," *Journal of Consumer Research,* 24 (1), 105-119.

Sherman, Elaine and Ruth E. Smith (1987), "Mood States of Shoppers and Store Image: Promising Interactions and Possible Behavioral Effects," *Advances in Consumer Research*, 14 (1), 251-254.

Shimp, Terrence A. and Alican Kavas (1984), "The Theory of Reasoned Action Applied to Coupon Usage," *Journal of Consumer Research,* 11 (3), 795-806.

Shoemaker, Robert W. & Vikas Tibrewala (1985), "Relating Coupon Redemption Rates to Past Purchasing of the Brand," *Journal of Advertising Research,* 25 (5), 40-49.

Shoham, Aviv, Gregory M. Rose and Lynn R. Kahle (1998), "Marketing of Risky Sports: From Intention to Action," *Journal of the Academy of Marketing Science*, 26 (4), 307-321.

Singelis, Theodore M., and William F. Sharkey (1995), "Culture, Self-Construal, and Embarrassability," *Journal of Cross-Cultural Psychology,* 26 (6), 622-644.

Silva-Risso, Jorge M. and Randolph E. Bucklin (2004), "Capturing the Effects Of Coupon Promotions in Scanner Panel Choice Models," *The Journal of Product and Brand Management*, 13 (6), 442-454.

Snyder, Arden LeRoy (1974), "A Comparison of Relaxation as Self Control and Systematic Desensitization in the Treatment of Test Anxiety," doctoral dissertation, University of Oregon.

Sproles, George B. and Elizabeth Kendall (1986), "A Methodology for Profiling Consumers' Decision-making Styles," *Journal of Consumer Affairs,* 20 (2), 267-281.

Sproles, Elizabeth Kendall and George B. Sproles (1990), "Consumer Decision-making Styles as a Function of Individual Learning Styles," *Journal of Consumer Affairs,* 24 (1), 134-150.

Srinivasan, Srini S. and Robert P. Leone (1995), "The Advertising Exposure Effect of Free Standing Inserts," *Journal of Advertising*, Spring, 24 (1), 29-40.

Swaminathan, Srinivasan and Kapil Bawa (2005), "Category-Specific Coupon Proneness: The Impact of Individual Characteristics and Category-Specific Variables," *Journal of Retailing*, 81 (3), 205-214.

Taylor, Gail Ayala (2001), "Coupon Response in Services," *Journal of Retailing*, 77 (1), 139-151.

US Census Bureau (2005), (retrieved February 8, 2007), [available at http://factfinder.census.gov]

Varian Hal R. (1999), *Intermediate Microeconomics: A Modern Approach.* New York: W.W. Norton & Co.

Venkataraman, Meera P. (1991), "The Impact of Innovativeness and Innovation Type on Adoption," *Journal of Retailing,* 67 (Spring), 51-67.

---- and Linda L. Price (1990), "Differentiating Between Cognitive and Sensory Innovativeness: Concepts, Measurements and Implications," *Journal of Business Research,* 20 (June), 293-315.

Vermeir, Iris and Patrick Van Kenhove (2005), "The Influence of Need for Closure and Perceived Time Pressure on Search Effort for Price and Promotional Information in a Grocery Shopping Context," *Psychology and Marketing,* 22 (1), 71-96.

Walters, Rockney G. and Scott B. MacKenzie (1988), "A Structural Equations Analysis of the Impact of Price Promotions on Store Performance," *Journal of Marketing Research,* 25 (1), 51-63.

---- and Maqbul Jamil (2003), "Exploring the Relationships Between Shopping Trip Type, Purchases of Products on Promotion, and Shopping Basket Profit," *Journal of Business Research,* 56 (1), 17-29.

Ward, Ronald W. and James E. Davis (1978), "Coupon Redemption," *Journal of Advertising Research,* 18 (4), 51-58.

Yovovich, B.G. (1981), "Marketing to Blacks-Views on Coupons Changing," *Advertising Age,* 52 (21), S.

Zuckerman, Miron and Harry T. Reis (1978), "Comparison of Three Models for Predicting Altruistic Behavior," *Journal of Personality and Social Psychology,* 36 (5), 498-510.