#### ADVERTISING EFFECTS OF FSIs

by

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B.A., Math/Computer Science and Psychology Wesleyan University (1986)

Submitted to the Sloan School of Management in Partial Fulfillment of the Requirements of the Degree of Master of Science in Management

at the

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#### **ABSTRACT**

This study addresses the question of whether there are advertising effects from coupon advertisements in free-standing-inserts (FSIs) and attempts to define the nature of these potential effects. In laboratory experiment, subjects examined FSIs and completed questionnaires that measured attitude, purchase intention, unaided product recall, unaided brand recall, aided brand recognition, and coupon 'scanning'. Subjects were randomly allocated to five experimental cells. Four groups saw FSIs that included two manipulated coupon advertisements, the fifth was a control group. There were three experimental treatments in the manipulated coupon advertisements: 1) known brand and fictitious brand in a different product category; 2) magazine-like ad copy background and simple product presentation ad copy; 3) coupon and no coupon. The analysis showed that exposure to magazine-like ad copy in the known brand resulted in significantly more positive attitude, purchase intentions, and brand recognition. The presence of a coupon resulted in significantly better unaided product recall and unaided brand recall. The results for the unknown brand were mostly insignificant. Implications for marketing managers are that there are measurable advertising effects from FSIs. This should be considered when decisions are made about the design and use of FSIs.

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# **ACKNOWLEDGEMENTS**

I would like to thank the Consumer Packaged Goods Project for its support of this research. In addition, special thanks to John Tarsa and Howard Edmond for their constructive comments. Also thanks to Ocean Spray Cranberries and Lever Brothers Company.

I would also like to thank Professor John Little and Professor France Leclerc for their encouragement and guidance throughout this research.

Finally, additional thanks to Steve Peterson and Marc Jedel for their invaluable assistance conducting the experiment.

# INTRODUCTION

In 1991, a record 292 billion coupons were distributed, of which 7.46 billion were redeemed. All this is at no small expense to manufacturers who use coupon promotions. In addition to the \$4 billion paid to consumers, plus the \$596.8 million in handling fees paid to retailers, manufacturers must also pay for the coupon event (Yocum, 1992; Marketing News, 3/2/92). For one manufacturer, all these costs could total over \$1 million for a typical national Sunday newspaper free-standing insert (FSI) coupon event (Larson, 1991).

FSIs are the most widely used form of coupon event. In 1988, 77.3% of all coupons distributed were in FSIs. This figure has been steadily increasing since 1979, when it was just 14.9% (Blattberg and Neslin, 1990). Another noticeable trend is that FSI copy now looks more like magazine ads with coupons. Fewer ads simply present the product with a cents-off coupon. More creative effort is going into presenting the product. In addition, more coupon ads appear to be tied in with advertising campaigns in other media for the product. There are even some ads in FSIs that do not have a coupon at all. It is less expensive to distribute an ad in an FSI than in a magazine. This begs the questions: are FSIs an effective advertising medium? If so, in what ways?

# FSI Ad Copy May Have Advertising Effects Similar To Print Ads

Most research on FSI effectiveness has focused on coupon redemption rates.

More recent research has, more appropriately, focused on measuring the incremental sales (and profits) from coupon events (Bawa and Shoemaker, 1989;

Boland, 1991; Larson, 1991). These studies have found that incremental sales increase more than can be explained by coupon redemptions alone. They attribute part of this difference to advertising effects that result from consumer exposure to the coupon drop. Larson (1991) suggests that a study should be conducted in which the ad copy surrounding a coupon is varied, to test the effectiveness of each version. In addition, he recommends that coupon marketers should apply the same principles used in print advertising to design coupon ads that will generate more advertising value from their use.

In advertising research, measures that are commonly used to assess effectiveness are readership (e.g. Starch scores), brand recall or recognition, attitude toward the brand, and purchase intentions. Holbrook and Lehmann (1980) developed their own coding scheme to find qualitative message variables that could explain Starch readership scores. Diamond (1968) developed a model to help marketers select the most effective format for the type of magazine ad they intend to design. A related study could be conducted to find the most appropriate form of ad copy that should be used in FSIs. In this study, recall, attitude, purchase intentions, and coupon clipping are all appropriate and widely used measures.

# Coupons May Have A 'Distraction' Advertising Effect

If there are advertising effects from coupon ad copy, then what, if any, is the nature of the effect of the presence, or absence, of a coupon? Some researchers have hypothesized that the presence of a coupon may distract the

consumer from the content of the advertisement. However, the result of this distraction can lead to either positive or negative reactions, depending on what the ad would have otherwise elicited. The effects will be positive if consumers read ads and develop counterarguments against the assertions in the ad. If consumers are distracted by a coupon, they do not form these counterarguments and thus are more likely to be influenced by the positive statements in the ad. However, the effects of this distraction can also dampen the effect of a strong advertising message that would otherwise not elicit counterarguments.

Researchers who believe the presence of a coupon will always lead to negative effects assert that the coupon gives consumers the impression the product is low quality, overpriced, or needs coupons in order to be sold. However, Raju and Hastak (1983) found that the presence of coupons has only positive effects, and no negative effects.

#### Goals Of This Research

The preceding discussion has led to the formation of two questions:

- 1) Does coupon ad copy in FSIs have advertising effects?
- 2) Do ads without coupons differ from ads with coupons in FSIs in terms of advertising effects?

To address these questions, a controlled experiment was conducted in a laboratory setting. Two types of ads were created to test the first question. The two types of ad copy were defined to be magazine-like advertisement background and simple product presentation. This construct was selected because it provides

the sharpest contrast between the two ads, and because it is similar to the differences between coupon ads today versus several years ago. Today, more coupon ads tend to be like magazine ads, while they used to be mostly simple product presentations. The first goal was to discover whether there are any differences in advertising effects between the two types of ad treatments. If there is a difference, this study attempts to determine which ad treatment has a more positive advertising effect.

To address the second question, the same ads were used, both with and without coupons. If there are advertising effects from ads in FSIs, this study attempts to measure if the effects are different with the presence, or absence, of a coupon. If so, in which direction are they different.

As an additional check, the same ads were created for two different products. One product is well-known, while the other is a fictitious product. This construct was chosen so that the results might be validated for two different products. Additionally, subjects could have no prior biases about the fictitious product, which might have contaminated the effects of our experimental treatments.

The question of advertising effects of FSIs, with and without coupons, is of particular interest to manufacturers. Some marketing managers at major consumer products companies believe there are no advertising effects from the ad copy in FSIs. However, if this gut feeling is incorrect, they are perhaps missing some significant opportunities. If the effectiveness of their coupon promotions

can be increased by improving the ad copy used in FSIs, manufacturers can improve the profitability of these promotions. Knowing the differing effects of varying creative treatments, such as magazine-like ad copy versus simple product presentation, would help lead these efforts in the right directions. In addition, more manufacturers may find it effective to use FSIs without coupons for advertising purposes. They may even choose to switch resources from magazine ads to FSIs. On the other hand, if there are no benefits from ad copy in FSIs, this is an area which could be cut back to reduce the costs of FSI promotions. Further research would be needed before making such decisions. However, this study is a first step at attempting to address these issues.

# **METHODOLOGY**

Four experimental conditions were constructed, in a two (ad background or simple product presentation) X two (coupon or no coupon) X two (2 different products, both in each of 4 FSIs) design. Including a control, five FSIs were created for subjects to examine. Subjects' coupon scanning behavior and answers to a questionnaire (measuring recall, attitude, and purchase intentions) were observed and collected by the following methodology.

#### Materials

There were several materials constructed for this study, before the experiment could be run. Manipulated ad copy with varying treatments and varying coupon presence were designed. Unmanipulated coupon ads were selected and printed. A pre-test was designed and conducted to assess the viability of the manipulated ad copy. Finally, a questionnaire was designed to capture the dependent variables needed to measure advertising effects.

# Manipulated Coupon/Advertisement Copy Design

Eight coupon/advertisements were created, in which three elements were varied:

- 1) ad copy (magazine-like ad background or simple product presentation);
- 2) coupon (present or absent);
- 3) product (Ocean Spray Cranberry Juice Cocktail or Lancia Tendercrisp Pizza).

First, two advertisement designs were created. One advertisement includes a magazine-like background, incorporating the product into the ad. In particular, a drawing of a mountain climber is shown reaching up for the product. The headline states that some people will go almost anywhere for the product. The product is presented at the bottom, with a tag line to "Try some today!".

The other advertisement has a very simple background, and merely presents the product. The headline invites the reader to enjoy the product. The same tag line "Try some today!" is included.

Two versions of each advertisement were created. In one layout, a coupon was included in the bottom right corner. In the other, the image of the product was moved to create a typical-looking ad layout without a coupon. Thus, there were four ad copy designs.

Each of these four designs was constructed for two different products. One product was Ocean Spray Cranberry Juice Cocktail. The other product was a fictitious brand, and therefore unknown to any of the subjects in the experiment. The product selected was frozen pizza, and the brand name "Lancia Tendercrisp Pizza" was used. Lancia is the name of a brand of pasta sold in Canada and not distributed in Massachusetts. Lancia replaced the name McCain in "McCain Tendercrisp Pizza", a brand name which is distributed in Canada and not used in the United States (in the U.S., McCain Ellio's pizza is distributed). Thus, a total of eight "manipulated" coupon/advertisements was created. Reduced copies of the four for Ocean Spray are included on the following pages, and Lancia in

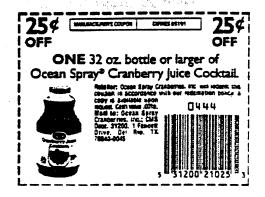


Some people will go almost anywhere for the refreshing taste of Cranberry Juice Cocktail from Ocean Spray.





Try some today!





Some people will go almost anywhere for the refreshing taste of Cranberry Juice Cocktail from Ocean Spray.





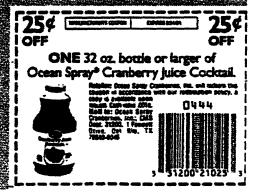
Try some today!

# Save 25c on the refreshing taste of Cranberry Juice Cocktail from Ocean Spray!



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# Enjoy the refreshing taste of Cranberry Juice Cocktail from Ocean Spray!



Try some for ave



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# Appendix A.

Notice that all of these "manipulated" ads were full-page ads. In all of the ad copies, the same sized product images were used. Also, the size of each product's logo was always the same. The size of the pizza box was about the same size of the cranberry juice bottle. In the ads with coupons, the coupon was always in the bottom right corner.

## Creation of FSIs

Twenty one coupon advertisements were selected. About half of them were chosen from FSIs distributed in Canada over the past year. The rest were selected from FSIs from the Boston Globe, distributed about 3-6 months prior to this experiment. This was done to ensure that the subjects in the experiment had no, or no recent, previous exposure to the ads. About half of the Canadian coupon advertisements were judged to have magazine-like ad backgrounds, the others were mostly simple product presentations. Similarly, about half the Boston coupon advertisements had magazine-like ad backgrounds, and half simple product presentations. This was done to ensure that the manipulated coupon ads, with magazine-like ads and simple product presentations, would not stand out from the others. Six were half-page ads, logically matched into full-page ads. Thus, there were eighteen pages of "unmanipulated" coupon advertisements. The final result was a collection of typical-looking coupon advertisements.

Five FSIs were designed, and labeled 1 through 5. FSI number 1 was a control FSI, including only the eighteen pages of unmanipulated coupon

advertisements. The other four FSIs included the same coupon advertisements, in the same order (as shown in Appendix B). However, a coupon/advertisement for Lancia pizza was inserted as page seven, and a coupon/advertisement for Ocean Spray juice was inserted as page thirteen. Thus, FSIs 2-5 consisted of twenty pages each. The following chart summarizes how each manipulated ad was arranged into the experimental FSIs.

Manipulated Ads In Five FSIs

FSI Number	Ocean Spray	Lancia
1	NA	NA
2	magazine-like, no coupon	simple, coupon
3	magazine-like, coupon	simple, no coupon
4	simple, no coupon	magazine-like, coupon
5	simple, coupon magazine-like, no coupon	

All of the pages in all of the FSIs were created using a color scanner and color laser printer. All of the expiration dates on coupons were edited to expire about three months from the time of the experiment. In addition, because the manipulated ads were created via these technologies, they looked similar to all the other coupon advertisements in the FSIs. The size of each page was about the

same as the size of FSIs printed by Valassis and McIntyre & Dodd. Because of technical limitations, double-sided printouts were not possible. However, double-sided pages were created by adhering the single-sided pages together with double-stick tape. Each double-sided page was kept and used as a stack of loose pages, similar to the loose pages in actual FSIs. Their order was strictly maintained and controlled.

Copies of the unmanipulated coupon ads, reduced to meet the specifications of this document, are included as Appendix B.

# Pre-Test Of Manipulated Ad Copy

Before a final decision was made about the magazine-like background advertisement to be used, a pre-test was conducted. The purpose of the pre-test was to ensure that the magazine-like background advertisement was not offensive or unusual, relative to other typical coupon advertisements.

Copies of the Ocean Spray magazine-like advertisement with a coupon were made. In addition, copies of four other coupon advertisements selected from the experimental FSIs were made. (The 4 coupon ads selected were: Cheerios, Crest, Downy, and Lysol; see Appendix B). These four coupon advertisements were among the group considered to have magazine-like ad backgrounds (not simple product presentations), for consistency with the magazine-like background ad copy for Ocean Spray. A questionnaire was designed, asking pre-test subjects to rate the advertisements on four scales. Twenty 10-page packets were constructed, each consisting of the five coupon advertisements, each coupon

advertisement followed by a questionnaire for the pre-test subjects to rate each one. A sample of the questionnaire is included in Appendix C. The twenty pre-test subjects were first-year Sloan master's students who attended a review session for the core marketing course. Because the subjects in the actual experiment were expected to be primarily U.S. citizens, pre-test questionnaires of non-U.S. citizenship were discarded. The remaining twelve questionnaires were analyzed.

The results of the pre-test are included as Exhibit 1. Because the correlation between the Good/Bad and Like/Dislike scales was high (0.877), these measures were combined into one, called Attitude. The means for the Ocean Spray ad for these remaining three measures (Attitude, Irritating/Not Irritating, and Interesting/Not Interesting) were not significantly different from the means of the other ads. The Crest ad stood out because most people rated it unfavorably. However, the experimental ad for Ocean Spray did not stand out from the others. Further analysis on each of the three measures found the group variances to be homogeneous.

Therefore, it was concluded that the magazine-like background advertisement was not significantly different from the other coupon advertisements on these measures. The decision was made to proceed with this magazine-like ad background design.

# Dependent Variables: Questionnaire Design

A two-part questionnaire was designed for subjects to complete after they had been exposed to one of the FSIs. Subjects in all five experimental cells

completed the same questionnaire. The first part of the questionnaire asked two questions about the subject's experience with the scanner, to remain consistent with the cover story (explained later). The second question implied that the scanner could have distracted them from the coupons. The intention was to try to prevent subjects from becoming aware of the direct purpose of the study. This question was followed by instructions for unaided recall of all the product categories and brand names they could remember from the FSI.

The second part of the questionnaire began with aided brand recognition for all the brands in all the FSIs. For every product category, four or five brand names were provided from which to choose. Subjects circled the brands they remembered. The next section asked for subjects' purchase intentions and overall impressions of Ocean Spray Cranberry Juice Cocktail, Lancia Tendercrisp Pizza, and Wisk laundry detergent. These measures were obtained for all three products early in the questionnaire to try to get their first impressions of the products, without too much thought. As discussed later in the Experimental Procedures section, there were some problems with this section of the questionnaire. When these problems were realized, additional instructions were handwritten into this section. The next three pages, one for each product, each asked for subjects to recall more details about the ads and then obtained information about their purchase habits of each product category, and brand in particular. The last page asked for subjects' coupon clipping habits, additional questions about the scanner, and finally a few personal statistics (gender, age, occupation, family size). A copy

of the questionnaire is included as Appendix E.

Thus, the questionnaire was designed ultimately to measure the following five dependent variables:

Unaided Product Recall

Unaided Brand Recall

Aided Brand Recognition

Attitude (about the brand)

Purchase Intention (toward the brand)

In addition, a sixth dependent variable is measured in the study. Whether a coupon was scanned was recorded as a dependent variable, measuring the subject's motivation to save a coupon.

## Subjects

A total of 105 subjects were run in the experiment. All subjects involved in the study had some previous experience clipping coupons. Some had only clipped coupons a few times before, many were regular coupon clippers, several referred to themselves as "coupon queens". Subjects in the study represented a wide range of ages, from 21 to 62, with a mean of 37 (variance=121.8 and s.d.=11). Subjects' family size ranged from 1 to 7 with a mean of 2.577 (variance=2.246 and s.d.=1.499). Out of a total 105, 83 were women (79%) and 22 were men (21%). The majority of subjects were MIT staff employees. See Exhibit 2 for charts of subject statistics.

Subjects were recruited mostly from the MIT community and by word-of-

mouth. Invitations to participate were distributed to Sloan Fellows and spouses, Sloan MOTs and spouses, two mailings totaling over 500 were sent to MIT staff, and a poster was displayed in an MIT apartment building for married students. An example of the recruiting invitation and RSVP form is shown in Appendix D. Subjects were told that the purpose of the study was to test a new coupon scanning technology. This cover story was necessary to distract the subjects from the true purpose of the study, the advertising effects of FSIs, until they were debriefed at the end of the study. Subjects were told they would be compensated ten dollars for their participation.

# **Experimental Procedure**

The behavioral lab in Building E-40 at MIT was used as the site of the experiment. This lab is a square room with Macintosh computers on tables around the periphery, and two large tables together in the middle. A hand-held scanner was set up on one Macintosh II computer. Beside the computer was a sheet of paper with the word "coupon" written on it, enclosed in a drawn rectangle. Two comfortable chairs were used, one in front of the computer and the other at one of the peripheral tables. The positioning of the tables, computer, and chairs meant that subjects sitting in either of these two chairs faced a wall and were unlikely to be distracted by anything else in the room.

The experimenter had a schedule of subjects for the day, each scheduled usually at 30-minute intervals. Each subject was assigned a subject number (1-105) and an FSI number (1-5) in advance. Before the subjects arrived, the

experimenter knew which FSI to use, and checked the order of the coupons to make sure they were in the right order.

When a subject entered the room, he/she was invited to place his/her belongings on a side table and to feel comfortable. Then the subject was asked to sit in front of the computer with the scanner. Subjects were told the following:

"This is the scanner I'd like you to use. First, I'm going to show you how to use the scanner. Then, when you feel comfortable using it, I'll give you some coupons similar to those found in the newspaper, and ask you to pretend that you are at home, looking through the Sunday coupon inserts. Instead of using scissors to clip out the coupons you'd like, use the scanner to scan them in and save them. Now, let me show you how to use the scanner, with this test coupon (pointing to the paper with "coupon" written on it). When you have a coupon that you'd like to clip, or scan, just hit the enter key on the keyboard (hit enter key). You'll notice that this light on the scanner goes on (point to light). Notice this bar of light in the scanner (wait for subject to lean over and see bar of light) - this is where the scanner will actually be scanning. Position this bar of light at the end of the coupon (position scanner). Then press this button at the side and, while holding it down, move the scanner slowly over the coupon (demonstrate). At the end of the coupon, release the button. You'll notice that the image of the coupon you just scanned will appear on the screen to confirm that you scanned it. Don't be concerned if the image doesn't look exactly right, it's just the way the windows are set up on this computer. The coupon has been stored properly. If it ever stops partway through the coupon, just hit the enter key again and resume scanning where you left off, as you can tell from the image on the screen. Now, go ahead and try it yourself. (Observe and correct subject as he/she practices scanning the test coupon; most subjects scanned the test coupon about 3-4 times as practice.) Do you feel comfortable using the scanner now? (subject usually said yes, a few tried one more scan) O.k., now I'm setting up the computer for the real thing

(discard test file on Macintosh). Here are the coupons I'd like you to look at (hand subject one set of coupons, preselected from FSIs # 1-5). As I mentioned, just pretend you are at home, looking through the Sunday coupon insert, and whichever coupons you would normally like to clip out, just scan them in instead."

Subjects were left to look at and scan the coupons. The experimenter answered any technical questions about the scanner, but these questions were rare. As a backup to the computer, the experimenter had a checklist of the coupons the subject was examining. Checklists and coupons were kept in folders, both for safe-keeping and to hide them from view. Because the experimenter was seated at a table in the center of the room, the experimenter was able to see which coupons were being scanned, and to check them off the list for each subject. Subjects seemed to be unaware of what the experimenter was doing, and focused their attention on the FSIs.

When the subject was through with the FSI, the experimenter saved the file that contained the scanned images. The subject was asked to move to the other chair and to be seated at the table (still facing the wall). The subject was given Part I of the questionnaire, and told that this was the first of a two-part questionnaire. The experimenter went back to the chair at the center table until the subject said that he/she was done with the first part of the questionnaire. Then, the experimenter took the first part and handed the subject the second part.

It is important to note here that the second part of the questionnaire had one section that some subjects found difficult. Where subjects were asked for

their impressions of Lancia Tendercrisp Pizza, some subjects left it blank. Others asked the experimenter how they should complete it because they either had no impression, had never heard of the product, or had never tried it. Experimenters explained the scales, and sometimes misleadingly stated that circling a number in the middle implied no impression. Some subjects had similar problems for the question of their purchase intentions for Lancia. A few also had these problems for Ocean Spray and Wisk, too. The experiment was conducted during the course of ten days. Near the end of this period, after about 80 subjects, this problem was noted and the decision was made to adjust the numbers of subjects in each of the five experimental cells to ensure that all five cells had at least 16 completed answers for impressions of Lancia pizza. Although originally intended to have 20 subjects in each of the five cells, each cell had the following number of subjects:

FSI # 1: 19 subjects

FSI # 2: 20 subjects

FSI # 3: 21 subjects

FSI # 4: 22 subjects

FSI # 5 : 23 subjects

Thus, a total of 105 subjects were run in this experiment.

When the subject had completed the second part of the questionnaire, the experimenter handed him/her a ten-dollar bill and a form to complete for MIT accounting purposes. Then the subject was debriefed about the true purpose of the experiment, as described in Appendix G.

# **RESULTS**

After all 105 subjects were run, the questionnaires and coupon scanning reports were coded according to the scheme outlined in Appendix F. Because the three measures of attitude were highly correlated with one another, they were averaged together to form a single measure of attitude. For better readability, attitude and purchase intentions measures were inverted (i.e. 1=7, 2=6, etc.); thus high values of these measures mean favorable scores.

The data set was divided for separate analyses to be conducted for Ocean Spray and Lancia. Then, regression analysis was used to measure the significance and magnitude of the relationships between the experimental variants (two different creative treatments and presence or absence of coupons) and the six dependent measures of advertising effects (attitude, purchase intentions, unaided product recall, unaided brand recall, aided brand recognition, and coupon scanning). Then, regressions were run with other variables that could help explain the dependent measures. The covariates tested were:

Frequency with which subjects purchase products in this category
Subjects' brand loyalty to the manipulated brand
Frequency with which subjects use coupons for this product category
Subjects' gender

Subjects' age

Subjects' family size

Several of these variables were recoded from the way subjects had originally

answered on the questionnaire. Refer to Appendix F for the meaning of their values. The purchase frequency and brand loyalty variables were missing many values. Missing values were replaced with the means of the existing values before regressions were run. Only variables with two-tailed probabilities less than 0.10 were included in the final results. The following sections describe the final results in detail, first for Ocean Spray and each dependent measuring of advertising effects, and then for Lancia.

## Ocean Spray

The differential creative treatment in the ads showed a significant positive effect for key advertising measures of the Ocean Spray ads. The presence, as opposed to the absence, of coupons also showed positive significance with other key advertising measures. These results are discussed below and can be examined in Exhibit 3.

#### <u>Attitude</u>

Both the differential creative treatment and the presence or absence of coupons had a significant effect on subjects' attitudes. Seeing a magazine-like ad tended to result in more favorable attitudes toward Ocean Spray than seeing a simple product presentation ad (0.645, t=2.034, p=0.045). In addition, the presence of a coupon in the ad tended to result in more favorable attitudes toward Ocean Spray than the absence of a coupon (0.561, t=1.768, p=0.081).

When covariates were included in the model, the significance of the effect

of differential creative treatment was strengthened (0.638, t=2.299, p=0.024) but the effect of coupon presence was diminished (0.353, t=1.271, p=0.208). The significant covariates were brand loyalty (0.024, t=4.306, p=0.000) and frequency of product category purchases (0.008, t=2.106, p=0.038). Thus, not surprisingly, brand loyal subjects and those who frequently purchase Ocean Spray tended to have more favorable attitudes toward Ocean Spray.

Attitude: Means And Standard Deviations

	Magazine-Like Ad	Product Presentation Ad
Common	5.857	5.470
Coupon	(1.133)	(1.439) 4.651
No Coupon	(1.579)	(1.631)

Control: Mean = 5.175, Standard Deviation = 1.854

#### Purchase Intentions

Only the differential creative treatment had a significant effect on subjects' purchase intentions, while coupon presence was marginal but insignificant (t=1.541, p=0.127). Subjects who had seen a magazine-like ad tended to have stronger intentions to purchase Ocean Spray (0.931, t=1.928, p=0.057) than subjects who had seen a simple product presentation ad.

When covariates were included in the model, the significance of the effect of differential creative treatment was strengthened (0.883, t=2.278, p=0.025). However, coupon presence became clearly insignificant. The significant covariates

were high product category purchase frequency (1.616, t=3.369, p=0.001), brand loyalty (0.040, t=4.950, p=0.000), product category coupon use frequency (0.010, t=1.838, p=0.070), and gender (0.863, t=1.751, p=0.084). Thus, subjects who frequently purchase Ocean Spray, brand loyal subjects, and those who frequently use coupons for juice drinks had stronger intentions to purchase Ocean Spray than those who do not. Also, women had stronger intentions to purchase Ocean Spray than men.

Purchase Intentions: Means And Standard Deviations

÷	Magazine-Like Ad	Product Presentation Ad
Coupon	4.810 (2.205)	3.957 (2.495)
No Coupon	4.150 (2.059)	3.136 (2.189)

Control: Mean = 3.947, Standard Deviation = 2.368

## **Unaided Product Recall**

Both differential creative treatment and coupon presence had a significant effect on subjects' abilities to recall the product. Seeing a magazine-like ad tended to improve subjects' product recall abilities (0.170, t=1.727, p=0.088) while the presence of a coupon also tended to improve product recall (0.217, t=2.210, p=0.030).

When covariates were included in the model, the significance of differential creative treatment deteriorated (t=1.615, p=0.110) and coupon presence was

slightly weakened (0.193, t=1.969, p=0.052). The significant covariate was brand loyalty (0.003, t=1.708, p=0.091).

## Unaided Brand Recall

Only coupon presence had a significant effect on subjects' abilities to recall the brand. The presence of a coupon tended to improve brand recall (0.243, t=2.621, p=0.010). Differential creative treatment was insignificant (t=1.018, p=0.312).

When covariates were included in the model, differential creative treatment remained insignificant while the significance of coupon presence remained about the same (0.229, t=2.542, p=0.013). The significant covariates were brand loyalty (0.004, t=2.469, p=0.016) and subjects' age (-0.188, t=-2.086, p=0.040). Younger subjects recalled Ocean Spray more than older subjects. This could well be because younger subjects have better memory abilities.

#### Aided Brand Recognition

Only differential creative treatment had a significant effect on subjects' abilities to recognize Ocean Spray as the brand of juice drink they had seen.

Seeing a magazine-like ad tended to improve brand recognition (0.147, t=1.804, p=0.075). Coupon presence was insignificant (t=0.956, p=0.342).

When covariates were included in the model, the significance of differential creative treatment was strengthened (0.174, t=2.311, p=0.023). Coupon presence remained insignificant. The significant covariate was product category coupon use frequency (0.004, t=3.945, p=0.000). Subjects who use more coupons for juice

drinks recalled Ocean Spray more than the others.

# Coupon Scanning

Of course, only differential creative treatment was tested against coupon scanning, and not coupon presence (subjects can only scan coupons if a coupon is present). There was no significant effect of differential creative treatment on coupon scanning (t=1.215, p=0.231).

When covariates were included in the model, differential creative treatment remained insignificant, although improved (t=1.522, p=0.136). The significant covariate was product category coupon use frequency (0.005, t=2.858, 0.007). Subjects who use more coupons for juice drinks scanned Ocean Spray coupons more than the others.

# Summary of Ocean Spray Results

Although there were many instances where either differential creative treatment or coupon presence were insignificant, they always had the same sign. That is, magazine-like ads and coupon presence always had positive effects on the dependent measures of advertising effects. This adds credibility to the results.

The following is a summary chart of the results of the final models for Ocean Spray. It shows where the experimental conditions were significant, and includes significant covariates.

Ocean Spray Regression Model Results

Advertising Effects	Differential Creative Treatment	Coupon Presence	Significant and Positive Covariates
Attitude	SIGNIFICANT & POSITIVE	NS	Brand loyalty; Product category coupon use
Purchase Intentions	Significant & Positive	NS	High product category purchase frequency; Brand loyalty; Product category coupon use; Female gender
Unaided Product Recall	NS	SIGNIFICANT & POSITIVE	Brand loyalty
Unaided Brand Recall	NS	SIGNIFICANT & POSITIVE	Brand loyalty; Younger age
Aided Brand Recognition	SIGNIFICANT & POSITIVE	NS	Product category coupon use
Coupon Scanning	NS	NA	Product category coupon use

The magazine-like creative treatment, while not significant for every variable, consistently shows positive effects. That is, magazine-like ads consistently resulted in more favorable advertising effects than simple product presentation ads. In addition, the presence of coupons resulted in more favorable advertising effects than their absence.

#### Lancia

Neither differential creative treatment nor the presence or absence of coupons were significant in the regressions for Lancia Tendercrisp Pizza, the fictitious product. Some of the covariates were significant for many of the dependent measures. These results appear in Exhibit 4, and are discussed below.

Attitude

Neither differential creative treatment nor coupon presence had significant effects on subjects' attitudes toward Lancia. When covariates were added to the model, product category coupon use had a significant positive effect on attitude (0.007, t=1.890, p=0.063). Subjects who use more coupons for pizza tended to have a more positive attitude toward Lancia.

Attitude: Means And Standard Deviations

	Magazine-Like Ad	Product Presentation Ad
	3.667	3.648
Coupon	(1.304)	(0.631)
	3.604	3.292
No Coupon	(1.346)	(1.845)

Control: Mean = 3.028, Standard Deviation = 1.374

## Purchase Intentions

Neither differential creative treatment nor coupon presence had significant effects on subjects' purchase intentions of Lancia. When covariates were added to the model, the statistics remained insignificant. Product category coupon use

(0.011, t=2.909, p=0.005) and high product category purchase frequency (0.812, t=1.688, p=0.095) had significant positive effects on purchase intentions. That is, subjects who use more pizza coupons and those who purchase more frozen pizza had stronger intentions to purchase Lancia than the others.

Purchase Intentions: Means And Standard Deviations

	Magazine-Like Ad	Product Presentation Ad
Coupon	1.773 (1.572)	2.100 (1.483)
No Coupon	1.826 (1.435)	1.900 (1.410)

Control: Mean = 1.706, Standard Deviation = 1.213

## **Unaided Product Recall**

Neither differential creative treatment nor coupon presence had significant effects on subjects' abilities to recall seeing pizza in the FSI. When covariates were added to the model, gender had a significant effect (-0.213, t=-2.525, p=0.013). Women remembered seeing pizza in the FSI more than men did. In both cases, differential creative treatment was marginally insignificant and negative (t=-1.503, p=0.137 and t=-1.416, p=0.160). Again, this implies that magazine-like ads are less likely to be recalled than simple product presentation ad copy. However, these statistics are still weak and inconclusive.

# Unaided Brand Recall

Neither differential creative treatment nor coupon presence had significant

effects on subjects' abilities to recall seeing Lancia Tendercrisp Pizza in the FSI. When covariates were added to the model, gender again had a significant effect (-0.120, t=-3.069, p=0.003). Women recalled seeing Lancia Tendercrisp Pizza in the FSI more than men did. In both cases, coupon presence was marginally insignificant and negative (t=-1.389, p=0.168 and t=-1.582, p=0.117). This would imply that the presence of a coupon would tend to distract subjects from recalling the brand compared with subjects who saw a coupon. However, these statistics are weak and inconclusive.

## Aided Brand Recognition

Neither differential creative treatment nor coupon presence had significant effects on subjects' abilities to recognize Lancia Tendercrisp Pizza as the brand of pizza they had seen. When covariates were added to the model, both experimental conditions remained insignificant. Medium product category purchase frequency had marginally significant negative effects (-0.180, t=-1.635, p=0.106).

# Coupon Scanning

Again, of course, only differential creative treatment was tested for its effect on whether a coupon was scanned. Again, no significant effect was found. When covariates were added to the model, differential creative treatment remained insignificant but high product category purchase frequency had a positive effect (0.364, t=2.669, p=0.011). Subjects who purchase more frozen pizzas scanned more

Lancia coupons than the others.

# Summary of Lancia Results

Neither of the experimental conditions had significant advertising effects for Lancia Tendercrisp Pizza. It could be hypothesized that the effect of unfamiliarity with this fictitious product obliterated any possible effects from the experimental conditions. When a new product is introduced, it is typically accompanied by a blitz of advertising and promotions. One exposure in an FSI appears to be insufficient to measure any advertising effects from qualitative differences in the ad copy.

This hypothesis is supported by the characteristics of the data outlined in the following chart.

Dependent Measures	Ocean Spray	Lancia
Attitude: range of means of FSIs	4.651 - 5.857	3.028 - 3.667
Purchase Intentions: range of means of FSIs	3.136 - 4.810	1.706 - 2.100
Unaided Product Recall (total)	28	9
Unaided Brand Recall (total)	23	2
Aided Brand Recognition (total)	72	32
Number of Coupons Scanned	23	5

These statistics show that subjects in all conditions had more positive attitudes

toward Ocean Spray than Lancia and they had stronger purchase intentions toward Ocean Spray than Lancia. Also, the problems with the instructions for completing this section of the questionnaire applied mainly to Lancia. This would help explain the reduced variance on these scales. Additionally, many more subjects could recall and recognize Ocean Spray than Lancia. Several subjects recalled Lancia to be a brand of pepperoni. It might be that some subjects were confused because the pepperoni was more salient than the pizza. Many more subjects also scanned Ocean Spray coupons than Lancia coupons. Perhaps subjects' unfamiliarity with the product led to these negative results. Perhaps this product is just disliked by most people. Whatever the case, it can be hypothesized that these negative results for Lancia overwhelmed any potential effects from relatively small differences in ad copy and coupon presence.

# **DISCUSSION**

The initial intent of this study was to discover whether there are advertising effects from FSIs. These effects were measured by varying ad treatments and coupon presence in experimental FSIs. The results of this study can be summarized as follows:

- 1) Magazine-like ads improved subjects' attitudes, purchase intentions, and aided recognition of a known brand, compared with a simple product presentation ad treatment.
- 2) Ads with coupons enabled better unaided product recall and unaided brand recall than ads without coupons for a known brand.
- 3) There were no significant advertising effects from varying creative treatment or coupon presence for an unknown brand.

# Implications For Marketing Managers

These results strongly indicate that FSIs should be considered to be an advertising medium, in addition to being a promotional vehicle. Therefore, marketing managers should give design of FSI ad copy more attention than has been the case, especially if they are spending large sums on coupon promotions. For the known brand in this experiment, magazine-like ads were more effective

than simple product presentation ads. Therefore, marketing managers should find out which types of ad copy work best for their brands when advertised in FSIs.

Marketing managers should also be clear about the goals they hope to achieve when they use FSIs. From observing the means of attitudes and purchase intentions for each FSI, exposure to ads for both brands resulted in more favorable scores. This means that just the presence of an ad in an FSI may have positive advertising effects for the brand. The decision to include a coupon could be a separate issue. Although there were no significant effects on subjects' attitudes and purchase intentions toward the brand, subjects did tend to recall ads with coupons significantly better than those without coupons. Marketing managers should determine if this is also the case for their brands. If so, this additional advertising benefit of coupons should be taken into consideration when making the decision to include a coupon. Then, of course, projected redemptions, associated expenses, and other factors should be considered as part of this decision-making process.

The net result is that marketing managers should view FSIs as more than just coupon promotions. FSIs are another form of advertising media. The decisions marketing managers make about ad copy and coupons in FSIs can impact advertising effects on consumers, and thus the results of the FSI drop.

### Directions For Future Research

This study is among the early research that addresses the question of advertising effects of coupon/advertisements. First, more research needs to be

done to confirm or refute the results of this study, that coupon/advertisements have real advertising effects. Then, more research needs to be conducted to determine the nature of those effects.

This study did not go into depth on the question of whether ads without coupons in FSIs have significant advertising value. Further analysis could be conducted on the data resulting from this research. First, this analysis could assess the difference between subjects who had seen different types of ad copy (without coupons) and those who had seen no ad for the brand. The next question is, given these differences (if there are any), what is the effect of the addition of a coupon.

If there are significant advertising effects from ads without coupons in FSIs, this potential value should be compared against the value of similar ads in other media, such as magazines. Further research would be required to address this broader and more practical question.

Some work currently under way is defining specific attributes of coupon/advertisements that can be coded. Thus, coupon/advertisement copy would be defined by a collection of scores on this coding scheme. In the study described in this paper, just two basic ad treatments were examined. Subsequent research could measure possible advertising effects from these more detailed attributes of coupon/advertisements, as defined by the new coding scheme.

Finally, another interesting question is what are the synergistic advertising effects of ads that are consistent with television and other forms of

advertisements. Research that is being done to address this question for magazine ads could also be conducted for FSI ad copy. Subjects could be exposed to different coupon/advertisements, some consistent with existing and known advertising campaigns and some that are completely different. This research would look for differences in advertising effects between the groups.

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Exhibit 1

Pre-Test Results

# Matrix of Spearman Correlation Coefficients

	GOODBAD	IRRITATE	LIKE	INTEREST
GOODBAD	1.00			
IRRITATE	-0.638	1.00		
LIKE	0.877	-0.691	1.00	
INTEREST	0.593	-0.514	0.643	1.00

Attitude = Average (GoodBad and Like/Dislike)

# Mean Scores For Each Coupon Ad

Coupon Ads	Attitude	Irritate	Interesting
OCEAN SPRAY	10.083	6.000	5.333
Lysol	10.583	5.333	6.083
Crest	13.750	3.500	6.750
Cheerios	9.000	6.833	5.167
Downy	10.917	5.333	5.500

# Exhibit 1 (Continued)

### Attitude:

Bartlett Test For Homogeneity of Group Variances

Chi-Square = 1.755

DF = 4

Probability = 0.781

Analysis of Variance

Sum of Squares		DF	Mean Squ	are F	Probability
Between Groups Within Groups	149.933 483.000	4 55	37.483 8.782	4.268	0.004

### Irritate:

Bartlett Test For Homogeneity of Group Variances

Chi-Square = 1.482

DF = 4

Probability = 0.830

Analysis of Variance

Sum of Squares		DF	Mean Squar	re F	Probability
Between Groups Within Groups	72.400 176.000	4 55	18.100 3.200	5.656	0.001

# Interesting:

Bartlett Test For Homogeneity of Group Variances

Chi-Square = 2.141

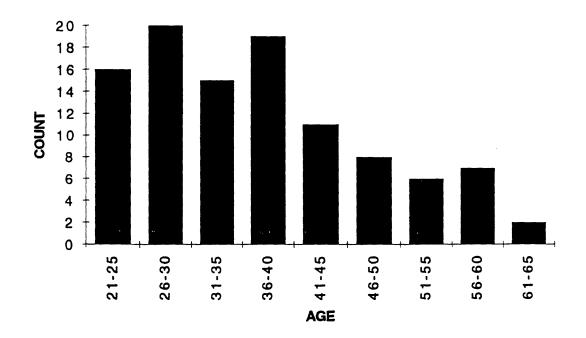
DF = 4

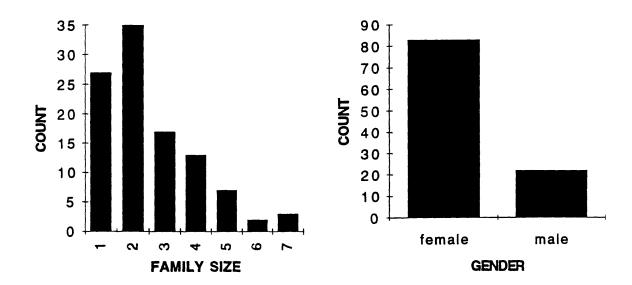
Probability = 0.710

Analysis of Variance

Sum-of-Squares		DF	Mean Square	F	Probability
Between Groups Within Groups	20.233 136.500	4 55	5.058 2.482	2.038	0.102

Exhibit 2
Subject Demographics





# Exhibit 3 Regression Results For Ocean Spray

# A. Using Attitude As The Dependent Variable

DEP VAR: AVGIMP N: 84 MULTIPLE R: 0.287 SQUARED MULTIPLE R: 0.082 ADJUSTED SQUARED MULTIPLE R: 0.060 STANDARD ERROR OF ESTIMATE: 1.454

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	4.783	0.275	0.000		17.405	0.000
BACKAD	0.645	0.317	0.216	1.000	2.034	0.045
COUP	0.561	0.317	0.188	1 000	1.768	0.081

DEP VAR: AVGIMP N: 84 MULTIPLE R: 0.574 SQUARED MULTIPLE R: 0.329 ADJUSTED SQUARED MULTIPLE R: 0.295 STANDARD ERROR OF ESTIMATE: 1.259

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	4.074	0.315	0.000		12.923	0.000
BACKAD	0.638	0.278	0.214	0.979	2.299	0.024
COUP	0.353	0.278	0.118	0.979	1.271	0.208
PROPUSBR	0.024	0.006	0.414	0.918	4.306	0.000
FREQCATC	0.008	0.004	0.202	0.927	2.106	0.038

# B. Using Purchase Intention As The Dependent Variable

DEP VAR: PURCHINT N: 86 MULTIPLE R: 0.262 SQUARED MULTIPLE R: 0.068 ADJUSTED SQUARED MULTIPLE R: 0.046 STANDARD ERROR OF ESTIMATE: 2.237

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	3.176	0.415	0.000		7.655	0.000
BACKAD	0.931	0.483	0.204	1.000	1.928	0.057
COUP	0.744	0.483	0.163	1.000	1.541	0.127

DEP VAR: PURCHINT N: 86 MULTIPLE R: 0.655 SQUARED MULTIPLE R: 0.442 ADJUSTED SQUARED MULTIPLE R: 0.400 STANDARD ERROR OF ESTIMATE: 1.774

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.287	0.651	0.000		0.220	0.661
BACKAD	0.883	0.387	0.194	0.977	2.278	0.025
COUP	0.345	0.388	0.076	0.975	0.891	0.376
CFHIGH	1.616	0.479	0.294	0.925	3.369	0.001
PROPUSBR	0.040	0.008	0.448	0.862	4.950	0.000
FREQCATC	0.010	0.005	0.166	0.868	1.838	0.070
GENDER	0.863	0.493	0.151	0.951	1. <b>75</b> 1	0.084

# Exhibit 3 (Continued)

# C. Using Unaided Product Recall As The Dependent Variable

DEP VAR: RECPROD N: 86 MULTIPLE R: 0.294 SQUARED MULTIPLE R: 0.087 ADJUSTED SQUARED MULTIPLE R: 0.065 STANDARD ERROR OF ESTIMATE: 0.456

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.133	0.085	0.000		1.578	0.118
BACKAD	0.170	0.098	0.181	1.000	1.727	0.088
COUP	0.217	0.098	0.232	1.000	2.210	0.030

DEP VAR: RECPROD N: 86 MULTIPLE R: 0.344 SQUARED MULTIPLE R: 0.118 ADJUSTED SQUARED MULTIPLE R: 0.086 STANDARD ERROR OF ESTIMATE: 0.451

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.100	0.086	0.000		1.159	0.250
BACKAD	0.158	0.098	0.168	0.994	1.615	0.110
COUP	0.193	0.098	0.206	0.980	1.969	0.052
PROPUSBR	0.003	0.002	0.179	0.974	1.708	0.091

## D. Using Unaided Brand Recall As The Dependent Variable

DEP VAR: RECBRAND N: 86 MULTIPLE R: 0.295 SQUARED MULTIPLE R: 0.087 ADJUSTED SQUARED MULTIPLE R: 0.065 STANDARD ERROR OF ESTIMATE: 0.431

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.098	0.080	0.000		1.225	0.224
BACKAD	0.095	0.093	0.107	1.000	1.018	0.312
COUP	0.243	0.093	0.275	1.000	2.621	0.010

DEP VAR: RECBRAND N: 86 MULTIPLE R: 0.427 SQUARED MULTIPLE R: 0.183 ADJUSTED SQUARED MULTIPLE R: 0.142 STANDARD ERROR OF ESTIMATE: 0.412

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.131	0.086	0.000	•	1.521	0.132
BACKAD	0.082	0.089	0.093	0.994	0.920	0.360
COUP	0.229	0.090	0.259	0.973	2.542	0.013
PROPUSBR	0.004	0.002	0.253	0.964	2.469	0.016
AGEDUM	-0.188	0.090	-0.212	0.980	-2.086	0.040

# Exhibit 3 (Continued)

## E. Using Aided Brand Recognition As The Dependent Variable

DEP VAR: RECOGBRN N: 86 MULTIPLE R: 0.219 SQUARED MULTIPLE R: 0.048 ADJUSTED SQUARED MULTIPLE R: 0.025 STANDARD ERROR OF ESTIMATE: 0.377

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.716	0.070	0.000		10.243	0.000
BACKAD	0.147	0.081	0.193	1.000	1.804	0.075
COUP	0.078	0.081	0.102	1.000	0.956	0.342

DEP VAR: RECOGBRN N: 86 MULTIPLE R: 0.447 SQUARED MULTIPLE R: 0.200 ADJUSTED SQUARED MULTIPLE R: 0.170 STANDARD ERROR OF ESTIMATE: 0.348

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.497	0.085	0.000		5.852	0.000
BACKAD	0.174	0.075	0.229	0.992	2.311	0.023
COUP	0.068	0.075	0.089	0.999	0.904	0.368
FREQCATC	0.004	0.001	0.392	0.990	3.945	0.000

### F. Using Coupon Scanned As The Dependent Variable

DEP VAR: SCANNED N: 44 MULTIPLE R: 0.184 SQUARED MULTIPLE R: 0.034 ADJUSTED SQUARED MULTIPLE R: 0.011 STANDARD ERROR OF ESTIMATE: 0.502

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.435	0.105	0.000		4.150	0.000
BACKAD	0.184	0.152	0.184	1.000	1.215	0.231

DEP VAR: SCANNED N: 44 MULTIPLE R: 0.441 SQUARED MULTIPLE R: 0.194 ADJUSTED SQUARED MULTIPLE R: 0.155 STANDARD ERROR OF ESTIMATE: 0.464

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.129	0.144	0.000		0.893	0.377
BACKAD	0.214	0.141	0.214	0.995	1.522	0.136
FREQCATC	0.005	0.002	0.402	0.995	2.858	0.007

# Exhibit 4 Regression Results For Lancia

# A. Using Attitude As The Dependent Variable

DEP VAR: AVGIMP N: 68 MULTIPLE R: 0.100 SQUARED MULTIPLE R: 0.010 ADJUSTED SQUARED MULTIPLE R: 0.000 STANDARD ERROR OF ESTIMATE: 1.326

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	3.369	0.284	0.000		11.855	0.000
BACKAD	0.157	0.322	0.060	1.000	0.488	0.627
COUP	0.209	0.322	0.080	1.000	0.650	0.518

DEP VAR: AVGIMP N: 68 MULTIPLE R: 0.250 SQUARED MULTIPLE R: 0.062 ADJUSTED SQUARED MULTIPLE R: 0.018 STANDARD ERROR OF ESTIMATE: 1.200

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	3.203	0.292	0.000		10.954	0.000
BACKAD	0.065	0.319	0.025	0.977	0.203	0.840
COUP	0.165	0.317	0.063	0.995	0.522	0.604
FREQCATC	0.007	0.004	0.232	0.971	1.890	0.063

# B. Using Purchase Intention As The Dependent Variable

DEP VAR: PURCHINT N: 85 MULTIPLE R: 0.073 SQUARED MULTIPLE R: 0.005 ADJUSTED SQUARED MULTIPLE R: 0.000 STANDARD ERROR OF ESTIMATE: 1.470

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	1.967	0.282	0.000		6.980	0.000
BACKAD	-0.199	0.319	-0.069	1.000	-0.624	0.534
COUP	0.066	0.319	0.023	1.000	0.207	0.837

DEP VAR: PURCHINT N: 85 MULTIPLE R: 0.418 SQUARED MULTIPLE R: 0.175 ADJUSTED SQUARED MULTIPLE R: 0.133 STANDARD ERROR OF ESTIMATE: 1.347

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	1.660	0.269	0.000		6.176	0.000
BACKAD	-0.486	0.300	-0.169	0.961	-1.620	0.109
COUP	0.064	0.294	0.022	0.996	0.217	0.828
FREQCATC	0.011	0.004	0.318	0.872	2.909	0.005
CFHIGH	0.812	0.481	0.183	0.890	1.688	0.095

# Exhibit 4 (Continued)

# C. Using Unaided Product Recall As The Dependent Variable

DEP VAR: RECPROD N: 86 MULTIPLE R: 0.181 SQUARED MULTIPLE R: 0.033 ADJUSTED SQUARED MULTIPLE R: 0.010 STANDARD ERROR OF ESTIMATE: 0.321

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.145	0.060	0.000		2.405	0.018
BACKAD	-0.104	0.069	-0.162	1.000	-1.503	0.137
COUP	0.052	0.069	0.081	1.000	0.752	0.454

DEP VAR: RECPROD N: 86 MULTIPLE R: 0.320 SQUARED MULTIPLE R: 0.103 ADJUSTED SQUARED MULTIPLE R: 0.070 STANDARD ERROR OF ESTIMATE: 0.311

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.315	0.089	0.000		3.534	0.001
BACKAD	-0.095	0.067	-0.148	0.997	-1.416	0.160
COUP	0.045	0.067	0.070	0.998	0.672	0.503
GENDER	-0.213	0.084	-0.265	0.996	-2.525	0.013

# D. Using Unaided Brand Recall As The Dependent Variable

DEP VAR: RECBRAND N: 86 MULTIPLE R: 0.151 SQUARED MULTIPLE R: 0.023 ADJUSTED SQUARED MULTIPLE R: 0.000 STANDARD ERROR OF ESTIMATE: 0.152

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.047	0.029	0.000		1.630	0.107
BACKAD	-0.002	0.033	-0.007	1.000	-0.065	0.949
COUP	-0.045	0.033	-0.151	1.000	-1.389	0.168

DEP VAR: RECBRAND N: 86 MULTIPLE R: 0.351 SQUARED MULTIPLE R: 0.123 ADJUSTED SQUARED MULTIPLE R: 0.091 STANDARD ERROR OF ESTIMATE: 0.145

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.142	0.041	0.000		3.438	0.001
BACKAD	0.003	0.031	0.010	0.997	0.093	0.926
COUP	-0.049	0.031	-0.164	0.998	-1.582	0.117
GENDER	-0.120	0.039	-0.318	0.996	-3.069	0.003

# Exhibit 4 (Continued)

### E. Using Aided Brand Recognition As The Dependent Variable

DEP VAR: RECOGBRN N: 86 MULTIPLE R: 0.133 SQUARED MULTIPLE R: 0.018 ADJUSTED SQUARED MULTIPLE R: 0.000 STANDARD ERROR OF ESTIMATE: 0.488

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.431	0.092	0.000		4.688	0.000
BACKAD	-0.128	0.105	-0.132	1.000	-1.215	0.228
COUP	0.017	0.105	0.018	1.000	0.166	0.869

DEP VAR: RECOGBRN N: 85 MULTIPLE R: 0.217 SQUARED MULTIPLE R: 0.047 ADJUSTED SQUARED MULTIPLE R: 0.012 STANDARD ERROR OF ESTIMATE: 0.484

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.504	0.101	0.000		4.995	0.000
BACKAD	-0.134	0.105	-0.138	0.994	-1.270	0.208
COUP	0.012	0.105	0.012	1.000	0.114	0.909
CFMED	-0.180	0.110	-0.178	0.994	-1.635	0.106

### F. Using Coupon Scanned As The Dependent Variable

DEP VAR: SCANNED N: 42 MULTIPLE R: 0.015 SQUARED MULTIPLE R: 0.000 ADJUSTED SQUARED MULTIPLE R: 0.000 STANDARD ERROR OF ESTIMATE: 0.301

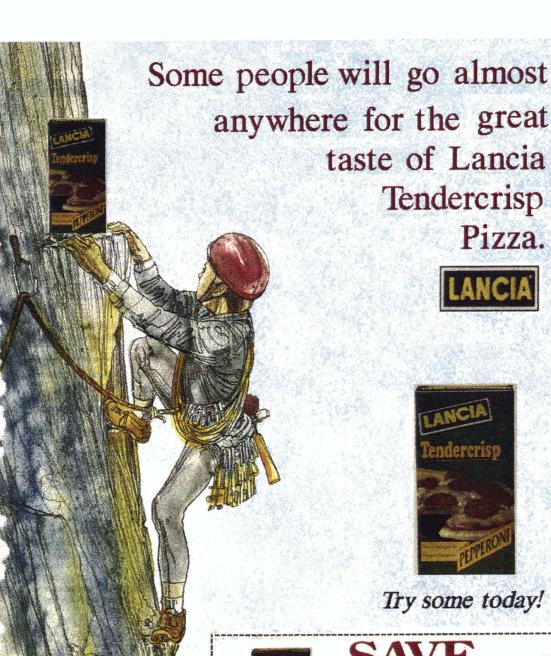
VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.100	0.067	0.000		1.487	0.145
BACKAD	-0.009	0.093	-0.015	1.000	-0.098	0.923

DEP VAR: SCANNED N: 42 MULTIPLE R: 0.393 SQUARED MULTIPLE R: 0.155 ADJUSTED SQUARED MULTIPLE R: 0.111 STANDARD ERROR OF ESTIMATE: 0.280

VARIABLE	COEF	STD ERR	STD COEF	TOLER	T	P(2 TAIL)
CONSTANT	0.082	0.063	0.000		1.299	0.202
BACKAD	-0.057	0.088	-0.097	0.959	-0.646	0.522
CFHIGH	0.364	0.136	0.401	0.959	2.669	0.011

Appendix A

Manipulated Advertisements





Coupon expires July 31, 1992

SAVE 30¢

on Lancia
5" Tendercrisp or
Deep'n Delicious pizzas.

To the grocer: M\*Ceining-Foods will retimbuse you. Sop phis our usual handling fee provided your customer has redeemed this causon with the purchase of M\*Cein Delicious pixtus. Any other application constitutes traud involces showing sufficient purchase of stock must be provided. If enguested. For registragion mail to M\*Cein Tools United. Mere Burtevick E24, 4.3. Uprit one coupon per





Some people will go almost anywhere for the great taste of Lancia Tendercrisp Pizza.





Try some today!

# Enjoy the great taste of Lancia Tendercrisp Pizza!



Try some today!





Coupon expires July 31, 1992

SAVE 30¢

on Lancia 5" Tendercrisp or Deep'n Delicious pizzas. To the grocers M-Codell-Foods will midbule, risk: 3% plus our usuals handling lee provided your customer has redeemed this coupon with the purchase of M-Codell 5" Tenderorisp or Deep 'n Delicous pixes, Any other application constitutes traud invoices showing sufficient be provided. It requested for rederingthen mail to MC-Codell in the constitute Box 3000, Sarri John, New Brusewick EZI, 413. Lumit one soupon per



# Enjoy the great taste of Lancia Tendercrisp Pizza!

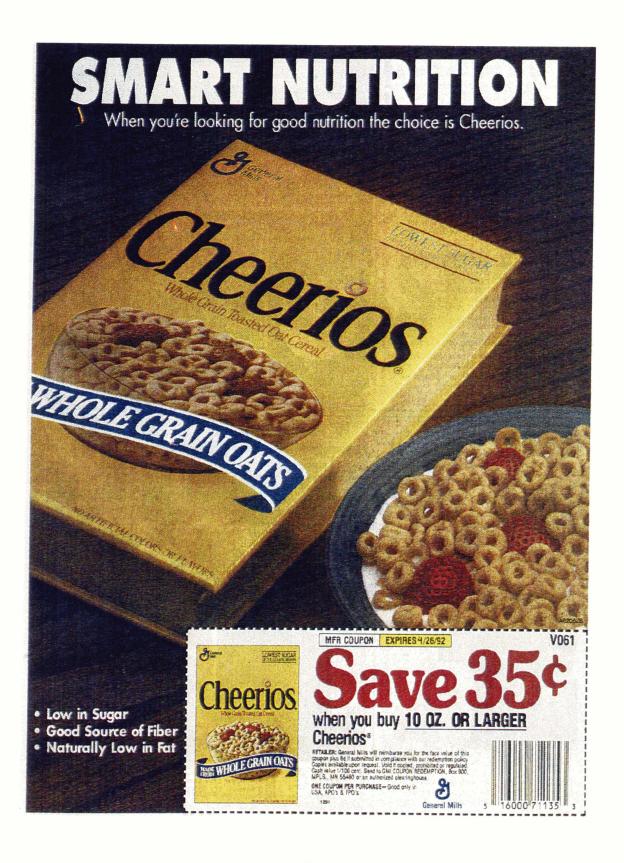


Try some today!

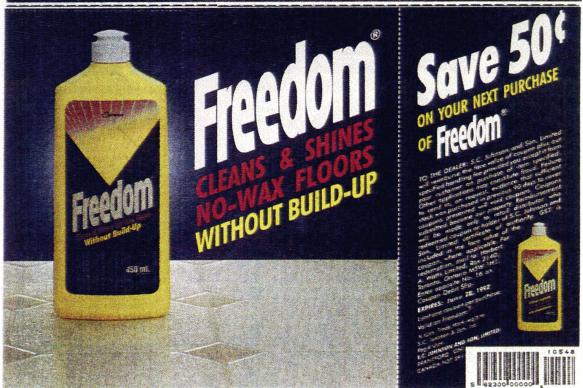


Appendix B

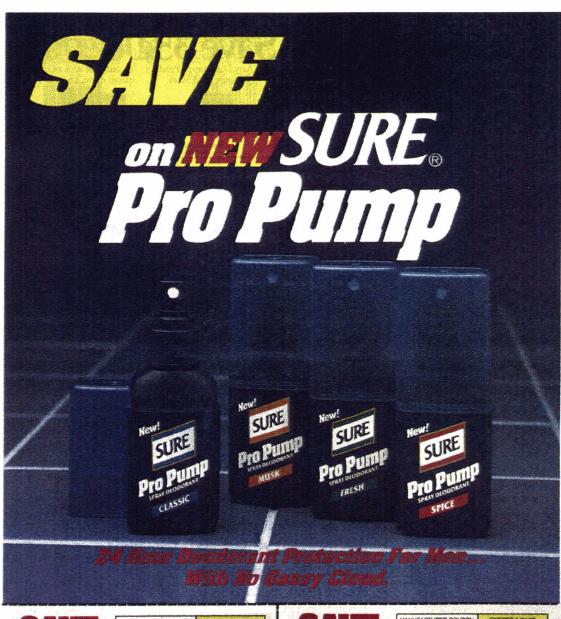
Unmanipulated Advertisements













PROCTER & GAMBLE





























ON NEW EXCEL DISHWASHING LIQUID. IT'S SIMPLY THE BEST



STORE COUPON



HERE'S **75 CENTS OFF** THE RICHEST, MOST POWERFUL DISHWASHING LIQUID YOU CAN BUY.

SO IF YOU DON'T WANT CLEAN DISHES, JUST PASS IT ON.



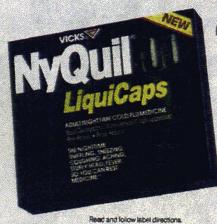


# The Best Thing to Happen to Your Cold Since NyQuil:



Introducing Vicks NyQuil LiquiCaps.

Concentrated NyQuil Relief To Get The Rest You Need.



For relief of sneezing, nasal congestion, aches and pains that you expect from a cold tablet, plus the sore throat and cough relief you want from a liquid.









Appendix C

Pre-Test Questionnaire (example for Ocean Spray)

On a scale of 1 to 9, please indicate your overall reaction to this ad (ignoring the coupon) for Ocean Spray.

1 Good	2	3	4	5	6	7	8	9 Bad
1	2	3	4	5	6	7	8	9
Very								Not Irritating At All
Irrita	ting							
1	2	3	4	5	6	7	8	9
I Like This Ad			I Do Not Like					
Very Much This Ad At All			This Ad At All					
1	2	3	4	5	6	7	8	9
Very								Not Interesting At All
Intere	esting							•

#### Appendix D

## Recruiting Invitation and RSVP Form

YOU'RE

**INVITED**:

To participate in trying out new technologies in coupon redemption

BY:

Elizabeth (Lisa) Jones SM '92

FOR:

MIT/Sloan Master's Thesis Research

WHEN:

At your convenience, March 23 - April 5

WHERE:

At Sloan, Building E-40

Corner of Amherst and Wadsworth, Cambridge

You will be asked to use a new scanning technology on an FSI (which is a coupon insert that is found in the Sunday paper) and to complete a brief questionnaire.

The experiment will take no longer than 30 minutes of your time (for which you will be compensated \$10).

Refreshments will be served.

*R.S.V.P.:* 

With the attached form via my mailfolder (building E-52) or by

calling me at (617) 868-9892.

Hope to see you there!

## R.S.V.P. FORM FOR NEW TECHNOLOGY IN COUPON REDEMPTION EXPERIMENT

	YES, I am interested in participating
	NO, I am unavailable to participate
Name:	
If YES:	
Please chec	ck the description that applies to you:
	I frequently look through coupon inserts in the newspaper and use them when I go shopping. I frequently look through coupon inserts in the newspaper and occasionally use them when I go shopping. I occasionally look through coupon inserts in the newspaper and occasionally use them when I go shopping. I can remember a few times when I looked through coupon inserts in the newspaper and may have used a few coupons when I went shopping. I have never seen coupon inserts in the newspaper, or I just ignore them.
Times that	are best for me (including 7 days/week, any time of day) are:
1	
2	
3	
-	one number is:an best be reached to schedule a time is:

#### Appendix E

## Coupon Scanning Technology Questionnaire

Part I. (of II)

Subject Number:

**Instructions:** Please complete the following questionnaire. If you are unable to remember some of the details of your experience, please try to answer as best you can. This questionnaire has two parts, of which this is the first. When you have completed the first part, please give it to the experimenter, who will then give you the other one to complete.

ATTENTION: YOUR PARTICIPATION IN THIS STUDY IS COMPLETELY VOLUNTARY. IF YOU CHOOSE TO LEAVE AT ANY TIME, YOU MAY DO SO.

Did you like	using t	he cou	pon sca	nner?	
1 2 Very Much	3	4	5	6	7 Not at all
Did you find select?	l that us	sing the	e scanne	er distra	acted you from deciding which coupons to
1 2 Very Much	3	4	5	6	7 Not at all
in the FSI yo	ou just s	aw. In	clude e	verythi	thed with brand names that you can recall seeing ng you remember, not only the ones you gories, please write them down, too.
Product Cate	egories				Brand Names
		-			
		<del></del>			
		_			
				<del></del>	
	<del> </del>			·	

# **Coupon Scanning Technology Questionnaire**

Part II. (of II)

Subject Number:

**Instructions:** Please complete the following questionnaire. If you are unable to remember some of the details of your experience, please try to answer as best you can. This is the second and last part of the questionnaire.

ATTENTION: YOUR PARTICIPATION IN THIS STUDY IS COMPLETELY VOLUNTARY. IF YOU CHOOSE TO LEAVE AT ANY TIME, YOU MAY DO SO.

In your FSI, you saw many products and brand names. For the following product categories, please circle the brands you remember seeing:

#### <u>shampoo</u>

Flex Selsun Blue Head & Shoulders Herbal Essence Pert Plus

#### fabric softener

Downy Snuggle Cling Free Bounce

#### fruit juice

Tropicana Ocean Spray Minute Maid Welch's Hawaiian Punch

#### deodorant

Sure Old Spice Pro Pump Ban Right Guard Speed Stick

#### cake mix

Duncan Hines Stir & Frost Sweet Life Betty Crocker

#### <u>pizza</u>

Stouffer's Lancia Tony's Ellio's Contadina

#### cold medicine

Nyquil Comtrex Contac Sinutab Vick's

#### dish detergent

Sunlight Dawn Excel Ivory Dove

#### toothpaste

Crest Aim Colgate Arm & Hammer Aqua Fresh

#### laundry detergent

Solo Tide Surf All Wisk Cheer

#### margarine

Imperial Promise Fleischman's Parkay Blue Bonnet

#### floor wax

Lysol Freedom Pine Sol Mr. Clean

#### drain opener

Drano Liquid Plumr Plungr Rid-X

#### <u>cereal</u>

Cheerios Wheaties Kelloggs Post Grape Nuts

#### hot chocolate

Swiss Miss Carnation Nestle Hershey

#### bathroom cleaner

Comet Mr. Clean Ajax Lysol

#### garbage bags

Hefty Glad Ruffies Sweet Life

#### toothbrush

Oral B Reach Aqua Fresh Colgate

### liquid hand soap

Jergens Dove Caress Neutrogena

How likely would it be that you would purchase Ocean Spray Cranberry Juice Cocktail the next time you need a product of this nature (juice drink)?

1 2 3 4 5 6 7 Very Likely Not likely at all

Please rate your overall impression of Ocean Spray Cranberry Juice Cocktail on the following scales:

1 Good	2	3	4	5	6	7 Bad
1 Favora	2 ble	3	4	5	6	7 Unfavorable
1 Satisfa	2 ctory	3	4	5	6	7 Unsatisfactory

How likely would it be that you would purchase Lancia Tendercrisp Pizza the next time you need a product of this nature (frozen pizza)?

1 2 3 4 5 6 7 Very Likely Not likely at all

Please rate your overall impression of Lancia Tendercrisp Pizza on the following scales:

1 Good	2	3	4	5	6	7 Bad
1 Favora	2 able	3	4	5	6	7 Unfavorable
1 Satisfa	2 actory	3	4	5	6	7 Unsatisfactory

How likely would it be that you would purchase Wisk laundry detergent the next time you need a product of this nature (laundry detergent)?

1 2 3 4 5 6 7 Very Likely Not likely at all

Please rate your overall impression of Wisk laundry detergent on the following scales:

1 Good	2	3	4	5	6	7 Bad
1 Favora	2 able	3	4	5	6	7 Unfavorable
1 Satisfa	2 actory	3 .	4	5	6	7 Unsatisfactory

In this FSI, do you remember seeing an Ocean Spray Cranberry Juice Cocktail ad?
Yes No
If Yes:
Describe the ad as well as you can:
Also, please list any thoughts, if any, that you can remember having while viewing the Ocean Spray advertisement or indicate your response to what the advertisement showed or said or how it made you feel:
How often do you purchase juice drinks?
Once/week Once/2-3 weeks Once/month Once/6 months Once/year Never
Which brand(s) do you usually buy?
Please indicate above the proportion of times you buy each of the brands you listed.
Have you ever redeemed a coupon for juice drinks?
Yes No
If Yes, how often do you buy it on sale or using coupons?

In this FSI, do you remember seeing a Lancia Tendercrisp Pizza ad?
Yes No
If Yes:
Describe the ad as well as you can:
Also, please list any thoughts, if any, that you can remember having while viewing the Lancia advertisement or indicate your response to what the advertisement showed or sai or how it made you feel:
How often do you purchase frozen pizzas?
Once/week Once/2-3 weeks Once/month Once/6 months Once/year Never
Which brand(s) do you usually buy?
Please indicate above the proportion of times you buy each of the brands you listed.
Have you ever redeemed a coupon for frozen pizzas?
Yes No
If Yes, how often do you buy it on sale or using coupons?

In this FSI, do you remember seeing a Wisk laundry detergent ad?
Yes No
If Yes:
Describe the ad as well as you can:
Also, please list any thoughts, if any, that you can remember having while viewing the Wisk advertisement or indicate your response to what the advertisement showed or said or how it made you feel:
How often do you purchase laundry detergents?
Once/week Once/2-3 weeks Once/month Once/6 months Once/year Never
Which brand(s) do you usually buy?
Please indicate above the proportion of times you buy each of the brands you listed.
Have you ever redeemed a coupon for laundry detergents?
Yes No
If Yes how often do you have it on sale or using coupons?

How often do you clip coupons from FSIs?
every week once/month twice/year a few times before today
How many coupons do you usually clip?
I clip only the ones I know I'll use
I try to clip only the ones I'll use, but it's always more than I use
I clip some coupons that I don't think I'll use
I clip almost all coupons
I clip all coupons
Do you think that using the scanner resulted in getting the same number of coupons that you otherwise would have clipped? I scanned:
fewer coupons about the same number more coupons
Why?
Did you encounter any difficulties using the scanner?
Yes No
If yes, what were they?
Please share the following information about yourself:
Gender:
Age:
Occupation:
Family Size:

# Thank you very much for your participation!

The experimenter will now answer any questions you may have concerning this research.

#### Appendix F

#### Coding System For Data Analysis

Subject Number (SUBJNUM): Code used to identify subjects, 1-105

Product Number (PRODUCT):

1 - Ocean Spray

2 - Lancia

FSI Number (FSINUM):

1 - Control FSI

2 - Ocean Spray: creative ad & no coupon

Lancia: simple ad & coupon

3 - Ocean Spray: creative ad & coupon

Lancia: simple ad & no coupon

4 - Ocean Spray: simple ad & no coupon

Lancia: creative ad & coupon

5 - Ocean Spray: simple ad & coupon

Lancia: creative ad & no coupon

Unaided Product Recall (RECPROD): 0 - No (did not write product category)

1 - Yes (wrote down product category)

Unaided Brand Recall (RECBRAND): 0 - No (did not write brand name)

1 - Yes (wrote down brand name)

Aided Brand Recall (RECOGBRN): 0 - No (did not circle brand name)

1 - Yes (circled correct brand name)

0 - Wrong (circled wrong brand name)

Purchase Intentions (PURCHINT): Scale from 1 to 7 where

1 - Not likely at all to buy brand

7 - Very likely to buy brand

Good/Bad Impression of Brand (IMPGB): Scale from 1 to 7 where

1 - Bad 7 - Good

Favorable/Unfavorable Impression of Brand (IMPFUF): Scale from 1 to 7 where

1 - Unfavorable7 - Favorable

Satisfactory/Unsatisfactory Impression of Brand (IMPSUS): Scale from 1 to 7 where

1 - Unsatisfactory7 - Satisfactory

Average Impression of Brand (AVGIMP): Scale from 1 to 7

Calculated as average of IMPGB, IMPFUF,

and IMPSUS

Remember Seeing Ad (SEEAD): 1 - No

2 - Yes

Frequency of Product Category Purchase (FREQCATP): 1 - Once/week

2 - Once/2-3 weeks
3 - Once/month
4 - Once/6 months
5 - Once/year

6 - Never

Usual Brand (USUALBRN): 1 - No (brand is not listed as usually bought)

2 - Yes (brand is listed as usually bought)

Brand Loyalty (PROPUSBR): Calculated as a percentage of

Frequency of Product Category

Purchase, from 0 to 100

Use of Coupons/Sales For Product Category (CATCOUPS): 1 - No

2 - Yes

Frequency of Coupon/Sale Use For Product Category (FREQCATC):

Calculated as a percentage of Use of Coupons/Sales For Product Category,

from 0 to 100

Scanned Coupon (SCANNED):

0 - No (coupon for brand was not scanned)

1 - Yes (coupon for brand was scanned)

Gender of Subject (GENDER):

0 - Male

1 - Female

Age of Subject (AGE):

Coded as written by subject (in cases where subject

wrote a number followed by a "+" sign, the number

written was used)

Age Dummy Variable (AGEDUM): 0 - Lower than median age

1 - Higher than median age

Size of Subject's Family (FAMSIZE):

Coded as written by subject (where

subjects wrote "single", 1 was coded)

Family Size Dummy Variable (FAMSZDUM): 0 - Lower than median family size

1 - Higher than median family size

#### Appendix G

#### **Debriefing Of Subjects**

After subjects completed the second questionnaire, they were given \$10 and asked to complete a form for MIT Accounting, acknowledging receipt of the money.

When this transaction was complete, subjects were told the following:

"Before you leave, we would like to inform you that although we have told you that the purpose of this study was to collect information on a new technology for clipping coupons, we were mainly interested in the effect of ads in FSIs. As you remember in the questionnaire you completed, you had to give your impressions of various brands. Different individuals were exposed to different ads for those brands and we will examine the effects of these different ads on people's impressions of the brand and on their clipping behavior. As you can see, we could not tell you in advance the true purpose of the experiment since it would have made you look at the FSI very differently.

Now that you know the real purpose of the study, you should also know that the data obtained from your participation may be withdrawn and also that you may communicate with the chairman of the Committee on the Use of Humans as Experimental Subjects if you feel that you have been treated unfairly."

Following this explanation, subjects were asked if they had any questions. Frequently, this led to discussions about subjects' coupon clipping behaviors and opinions about ads and coupons in FSIs.

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