

# Which Coupons to use where?

## The Impact of Different type of Coupons on Consumer Purchase at Bricks and Mortars\*

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This study examines how various types of coupons affect consumer purchase behavior in different product categories. We demonstrate that coupons with different promotional intentions, such as hedonic, pull and push intentions, result in heterogeneous impact on consumer product purchase probability in general. More specifically, based on the product category, certain type of coupons were effective whereas some were not. In addition, we also find that the magnitude of the positive promotion effect is different within the product category. The results from our study may provide a guideline to retail managers, who may be interested in allocating the often limited marketing resources, in formulating a more efficient promotional strategy. Finally, this study also highlights that the most prevalent type of coupon which were found to be effective is the one which stimulates the hedonic intention of consumers.

Keywords : Coupon, Promotions, Product Category, Consumer Purchase Behavior, Bricks and Mortars

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### I. Introduction

Manufacturers distribute many items across the retailer members, and consumers see these items on the shelf space in the grocery stores. The interactions between manufacturers and retailers result in various different marketing strategies targeted towards consumers in the bricks and mortars. In general, manufacturers and retailers choose between various available marketing strategies such as advertising, rebate, coupons and so on under this circumstance. Among these marketing strategies, coupons have been an important and widely utilized marketing tool

for a long time. There are still debates about the advantages and effectiveness of different marketing strategies in the literature, the consumer packaged goods(CPG) industry has increased the spending of coupons to consumers. Although some have argued(Jedidi et al. 1999) that coupons have a negative effect on brand equity and the profitability of the brand in the long term, most agree that coupons tend to boost sales(Ailawadi et al. 2006; Jones 1990; Salter 2001; Venkatesan and Farris 2012) and also may speed up the purchase rotation in the short term. For example, in 1995 about \$6 billion worth of coupons were redeemed for a total saving of

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\$4 billion in the U.S(Bawa, Srinivasan, and Srivastava 1997). More specifically, the sum of coupons distributed in 1960 was less than 5 billion however, the numbers have significantly grown over the years to about 16.5 billion in 1970, 90 billion in 1980, about 248 billion in 2000, and about 286 billion in 2006(NCH 2000; Kumar, Madan, and Srinivasan 2004; Musalem, Bradlow, and Raju 2008; Salter 2001).

In the marketing literature, there are many studies involving coupons. Gerstner and Hess(1991) study the impact of coupons on brand performance in general. In more detail, there were research investigating the impact of retailer promotions on retailer profit and consumer promotions on manufacturers' profit(Inman and McAlister 1993; Kumar and Pereira 1997; Kumar et al. 2004; Venkatesan and Farris 2012). Overall, previous literature focused mostly on maximizing profits and increasing sales by utilizing coupons, or on analyzing the driving force on the redemption rate of coupons(Barone and Roy 2010; Pancras and Sudhir 2007; Venkatesan and Farris 2012). However, in comparison only few studies analyzed the effects of specific coupons(Bawa et al. 1997).

Coupons can be classified in various ways. They may be differentiated based on sponsors(i.e. manufacturer-sponsored coupon and retailer-sponsored coupon), based on savings type(i.e. cents-off, bonus coupon) and by delivery system such as daily news, Sunday news, magazines, direct mail or an electronic email. Now, prior research shows that even though less than 2% of the coupons are redeemed in 1999, coupon redemption rate varies by product category due to category characteristics(Bawa et al. 1997;

Salter 2001). However, there are surprising lack of literature which combine the above two streams of research, meaning that one stream of research focuses on classification of coupons whereas the other stream looks at coupon effectiveness at different product categories. Hence, it is only natural to take the next step in extending this stream of research by asking the following key question. Are there specific coupon types which are more effective on certain product categories?

We presume that the effect of coupons on consumer purchase behavior in the retail stores may be different by type of coupons. In other words, the goal of this study is to investigate how coupons affect consumer purchase in different product categories in the grocery stores and provide managerial guidance to manufacturers and retailers in choosing suitable coupon types consistent with their specific product line positions. By answering this research question we believe that our study bridges the gap between coupon categorization literature and coupon effectiveness literature. Furthermore, we also contribute to the existing literature on coupon promotions by developing specific target strategies in product categories.

The remainder of this paper is organized as follows: In section 2, we review the current literature and introduce the coupon types considered in the study. In section 3, we discuss our methodology including the data used for analysis. In section 4, we explain our results about the effect of coupons on consumer purchase. Our results contain analysis of varying effects of coupons on specific products categories, differentiated by Standard Industrial Classification Code(SIC) into 8 product categories.

In section 5, we will provide managerial policies which can be learned from our study and conclude.

## II. Literature review

### 2.1. Hedonic VS. Pull VS. Push

There are various types of coupons\* and the main purpose and related key strategies behind these coupon promotions are different in nature. First, certain type of coupons' main purpose is to stimulate the hedonic shopping motivation of consumers. Hedonic motivation is mainly related to consumer impulsiveness. It suggests that encouraging hedonic motivation of shoppers may instantaneously drive consumer's unplanned purchases (Beatty and Ferrell 1988; Bell, Corsten, and Knox 2011; Yim et al. 2014). Currently, supermarkets continue to expand consumer's hedonic shopping desires using different factors such as comfortable music, and store layout and design (Arnold and Reynolds 2003; Yim et al. 2014). In addition, even though supermarkets usually sell utilitarian type of products, it has also been argued that in-store coupons may encourage shopper purchase (Yim et al. 2014) by stimulating hedonic motivation of shoppers.

Pull promotion strategies are directed toward the consumers through advertising and sales promotion, such as rebate and coupons in magazine and

newspapers. Hence, the second type of coupons we investigate, try to lure consumers to the supermarkets and in turn increase consumer purchase. According to Urban (2005), even though daily newspaper readers are trending towards becoming the minority due to the increasing use of other factors such as internet and mass media, companies still try to reach consumers to promote their products using traditional communication methods.

The other coupon type we focus on are related to push promotion; the traditional promotion offered by manufacturers to resellers. Here, manufacturers and retailers work cooperatively in creating free standing inserts for special discounts and free goods. In most of these cases, manufacturers support some portion of retailers' promotion fees (Jørgensen, Sigué, and Zaccour 2000). In this study, we also study the impact of cooperative advertising related coupons to see their effect on consumer purchase behavior.

One can see from previous studies, that the underlying target and the fundamental strategy behind promotion activities are widely different. Based on these findings from the literature, we believe that the impact of promotions and coupons on consumer purchase behavior will be different also. It is not sufficient only to look at coupons at the macro level and analyze whether they are being utilized, as the design and purpose behind a certain coupon may be related with different type of promotions as illustrated above. In our analysis we

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\* Kasulis et al. (1999), categorized trade promotions into 5 types. First, price inducements are street money, free goods, discounts, billback & count recount. Second, distribution inducements are inventory financing and slotting allowances. Third, promotional inducements are calendar marketing agreements, display allowances, co-op advertising and co-marketing programs. Fourth, motivational inducements are contests and SPIFFs (special promotional incentive factory funds). Finally, effectiveness inducements are missionary selling and demonstrations. From their categorization, coupons can be categorized as price inducement and promotional inducement.

account for this heterogeneity and differentiate it, and contribute to the existing literature by examining the possible existence of varying effects of coupon promotions in different product categories.

### III. Methodology

In this study, we build the model to examine the effects of various types of coupons defined in the previous section, on household's purchase probability. More specifically, our model looks at the effectiveness of different coupons by type and how they affect consumer purchase probability in different product categories. There has been previous work in the literature utilizing the choice model(Manchanda, Ansari, and Gupta 1999), where they explain the changes in demand by sudden price discounts and other promotion mix variables. The model employed in this study is similar in the sense that we analyze the overall effectiveness of various promotion activities as well as coupons. However, there are two major differences from previous studies. First of all, we analyze 8 different product categories based on the 3-digit SIC and examine whether promotion effects on purchase probability is homogeneous across multiple product categories. Furthermore, we differentiate the source of price reductions to 4 different coupon types. In previous literature, most studies treat coupons as a price reduction in products. Although the primary purpose of coupons as a mean of promotion is indeed to boost sales through price reduction, retailers or manufacturers may try to optimize their goal by distributing various types of coupons with different

promotional intention as well as function. To sum, this study contribute to the literature by analyzing which type of promotion is effective in increasing the likelihood of purchase in what product categories.

#### 3.1. Data

The dataset we use for our analysis include sales data from five different grocery stores in the Chicago Metropolitan area in 2005, where 548 households were followed for a 2 year period. In more detail, each of the 548 households' transaction data were collected everytime they visit the stores. From this transaction level market basket data, we identify whether a product in each of the categories has been purchased in a given transaction and record them separately to come up with a binary table of purchase or no-purchase for different product categories. Furthermore, in cases where purchase has been made, we check whether a coupon has been used and recorded them as well for use in our analysis. Our data also includes various marketing activities performed by the grocery stores during this period and the demographic data of the participating households. In total there are eighteen individual product categories(bbq sauce, softener, paper towel, tissue, yogurt etc.), some of which have widely different functions and some which are closely related. In order to facilitate our analysis and to investigate the possible varying effects of coupon promotions in different product types, we combined the 18 product categories by their 3-digit SIC and created 8 larger categories for investigation. The details of the individual product categories and their SIC used in the analysis are given in <Table 1>.

&lt;Table 1&gt; Product Category Formation

Category	Products	SIC
1	Bbq Sauce	201
2	Ice cream, Butter, Yogurt	202
3	Catfood, Dogfood, Cereal	204
4	Nuts	206
5	Softdrinks	208
6	Snacks, Coffee	209
7	Vitamin Pills	283
8	Detergents, Softner, Soap, Cleanser, Tissue, Paper towl	284

Furthermore, we used control variables such as household size(discrete variable) and household income(ordinal variable) in the model. Household size is measured as the number of people in the household and included to control for certain cases, such as larger households purchasing certain products more often due to a faster consumption rate. Similarly, we include the household income variable to control for the income effect on product purchase. Note that household income is not measured continuously but in a categorical fashion. This is due to the nature of our dataset where household income is given by categories such as ‘less than \$19,999’, ‘\$20,000~\$29,999’ and ‘more than \$79,999’. Hence, household income variable enters our model as a recoded ordinal variable.

### 3.2 Investigating the Heterogeneous effects of different coupons

In order to investigate the possible heterogeneous effects of coupons, differentiated by their primary promotional intentions, such as hedonic, push, pull, and store loyalty building types, on consumer’s purchase probabilities, we employed the multinomial

logistic model similar to that in other studies involving coupons(Ahn and Min 2012). Now, one must consider that there are other factors which may affect a consumer’s purchase decision. As mentioned before, household income and size will have an impact on purchase decisions. In addition, other types of promotional activities such as display options and in-store feature advertising will also affect product purchase probability. Conventional theory in the literature agree(Mulhern and Leone 1991; Russell et al. 1999) that there are positive effects of promotion activities on consumer’s purchase decision and thus we include the variables for display options and in-store feature advertising into our model. However, the purpose of this study is to examine the heterogeneous effects of different coupons, and hence household income, size, display options and in-store feature advertising are considered as ‘control variables’ to facilitate our analysis.

The control variables used in our model are defined as follows:

- $I_{it}$  is the ordinal control variable indicating the income level of the household which took part in the transaction for product category  $i$
- $S_{it}$  is a discrete control variable indicating the size of the household which took part in the transaction for product category  $i$
- $F_{it}$  is a nominal variable controlling for the type of feature advertisement of the product category  $i$  in the transaction
- $D_{it}$  is a nominal variable controlling for where the product was displayed for product category  $i$  in the transaction

&lt;Table 2&gt; Coupon types and Promotion purposes

Promotion	Main Purpose	Coupons types
C1	Hedonic Intention	Instant redeemable coupons, Actnow Coupons
C2	Pull Intention	Magazine coupons, Newspaper coupons, Sunday supplement coupons
C3	Push Intention	Cooperative free standing insert
C4	Store Specific (Loyalty increasing)	Store coupons, Store flyers

In order to investigate the heterogeneous effects of different coupons, we start by broadly classifying the coupons into 4 distinct categories, depending on their main promotional purpose discussed in section 2. This is presented in <Table 2>.

As mentioned in the previous section, this study is especially interested in the presence of heterogeneous effects of hedonic, pull and push intended coupons, i.e. C1, C2 and C3 type coupon promotions defined above, on various product categories. If there exist such heterogeneity, retail managers and marketing strategists can focus on specific types of coupons in promoting their products, thus optimizing their strategy and budget.

For this purpose, we apply the following multinomial logistic model to the 8 product categories, grouped by their 3-digit SIC, and analyze the effects of different types of coupons.

$$\text{logit}(P(Y_{it} = 1)) = \alpha_i + \beta_{1i}I_{it} + \beta_{2i}S_{it} + \beta_{3i}F_{it} + \beta_{4i}D_{it} + \beta_{5i}C1_{it} + \beta_{6i}C2_{it} + \beta_{7i}C3_{it} + \beta_{8i}C4_{it} \quad (1)$$

The response variable and the main coupon variables used in the model are defined as follows:

- $Y_{it}$  is a binary indicator taking the value one if a product in category  $i$  has been purchased in a given transaction
- $C1_{it}$  is a binary indicator taking the value one if a

coupon for hedonic promotion intention was used in the transaction for product category  $i$

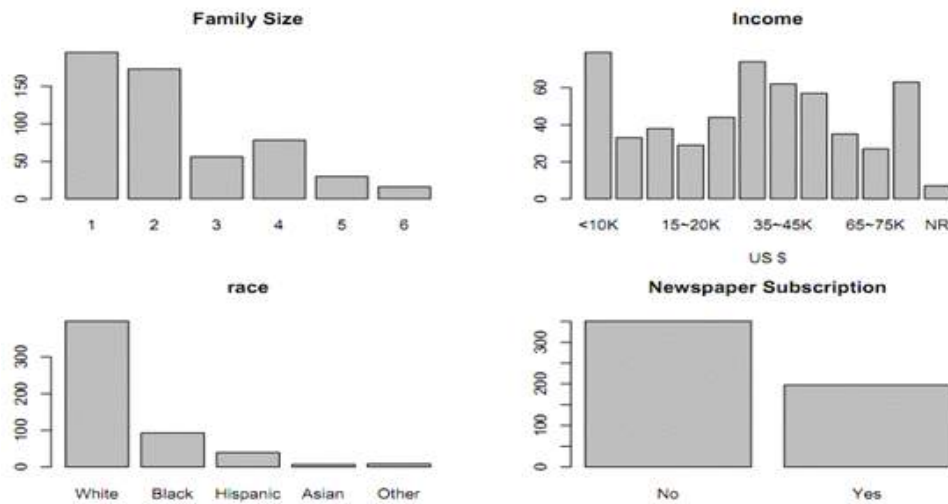
- $C2_{it}$  is a binary indicator taking the value one if a coupon for pull intention promotion was used in the transaction for product category  $i$
- $C3_{it}$  is a binary indicator taking the value one if a coupon for push intention promotion was used in the transaction for product category  $i$
- $C4_{it}$  is a binary indicator taking the value one if a coupon for establishing store loyalty was used in the transaction for product category  $i$

We present the results of our model in the following section.

## IV. Empirical Results

### 4.1. Descriptive analysis of the data

First of all, we performed descriptive analysis of the 548 households included in the dataset to identify possible traits regarding our research question. We present a general demographic pattern of the households in <Figure 1>. As one can see from the graphs of the household demographic information, most of the households are either single households



<Figure 1> Demographic composition of data

(36%) or only 2 member households(32%). Regarding the income of the households, one can see that the expected Gaussian shape is observed with the median of around \$40,000. However, there are some interesting patterns that we observe as well. It seems as if there exist two additional peaks at the extremes, meaning one peak at the lower income level, 16% of the households earn less than \$10,000 a year, and one peak at the high income level, 10% of the households earn more than \$75,000 a year.

This paints an interesting picture as we expect households with lower income to be more sensitive to promotions, and especially to coupons with which offer reduction in price.

Let us remind the readers that, in this study we are interested in the effectiveness of various types of coupons. Assuming that households with financially less endowed members are more likely to take advantage of the benefits of price inducements, it is encouraging to find such characteristics from the participating households as our analysis will be more

likely to provide a clear explanation behind consumers' coupon use behavior.

#### 4.2. Results for the heterogeneous coupon effect model

In this section, we present the results of our multinomial logistic model of heterogeneous coupons and their effects on purchase probability for different categories stated in equation (1). We first present the results regarding the model fit of the heterogeneous coupon effect model compared to other base models in <Table 3>. We then present the results from the multinomial logistic regression with income level "less than \$10,000" and no feature advertising as base levels for category 1(Bbq Sauce) in <Table 4>. Positive estimates of the parameters show that the likelihood of purchase is larger compared to the base level whereas, negative parameter estimates suggest that the purchase likelihood is less than the base level.

#### 4.2.1 Results on the model fit of the heterogeneous coupon model

To evaluate the model fit of the heterogeneous coupon model presented in equation (1), we present the Akaike Information Criterion(AIC) of our model(Model 3) in <Table 3>. We also give the AIC values of two other models for comparison purposes. The base model(Model 1) is similar to the multinomial logistic model in equation (1), but without any coupon related variables. In the homogeneous coupon model(Model 2) we run a similar multinomial logistic model, but without differentiating the coupon types. Hence, the homogeneous model gives us an idea of the model fit related to previous literature, when we do not distinguish the types of coupons. Note that AIC calculation involves the maximum value of the likelihood function for the model and the number of estimated parameters in the model. Therefore, it assesses the goodness of fit but also penalizes having too many variables in the model.

The preferred model under the Akaike Information Criterion is the model with the minimum AIC value, and these are highlighted in <Table 3>. It can be seen that the heterogeneous coupon model(Model 3) and

the homogeneous coupon model(Model 2), are superior to the base model(Model 1) in all product categories, suggesting that it is critical to consider coupons in analyzing consumer purchase likelihood. Furthermore, it is of great interest to find that our model(Model 3) is also superior to the homogeneous coupon model(Model 2), in all but 1 product category(category 6). This model fit results show that differentiating the coupons by type and analyzing their individual effects on product purchase likelihood allows for more robust analysis in general.

#### 4.2.2 Other factors affecting product purchase probability

First of all, we look at other factors affecting consumer's purchase decisions and confirm many of the established results involving promotions from previous marketing literature. We see that high income families, "\$45,000 ~ \$54,999", "\$55,000 ~ \$64,999" and "\$75,000 ~", all have positive parameter estimates significant at the 95% confidence level. In comparison we also see that the parameters for lower income levels are not significant suggesting that lower income families' purchase probability is not significantly different from our base level, which was "less than \$10,000", in the Bbq sauce category. Note that in some other categories, the purchase likelihood was higher for lower income families compared to high income families due to the nature of the product. However, in all product categories we find household income and size to be significant factors which affect product purchase likelihood. Regarding feature advertising within the store, we find that all four types of feature

<Table 3> Model fit results based on AIC

Category	Model 1	Model 2	Model 3
1	105114	105066	<b>105008</b>
2	95058	94803	<b>94792</b>
3	136879	136770	<b>136349</b>
4	26142	26100	<b>26065</b>
5	47589	47487	<b>47383</b>
6	116783	<b>115345</b>	115375
7	20475	20158	<b>20080</b>
8	47589	47487	<b>47383</b>



&lt;Table 4&gt; Maximum likelihood estimates of the Model for Category 1(Bbq Sauce)

Parameter	Estimate	Standard Error	P-value	Odds ratio
Intercept	-3.1543	0.0971	< 0.001	
Family Size	0.0928	0.0062	< 0.001	1.0972
\$10,000 ~ \$11,999	0.2640	0.1011	0.0090	1.3021
\$12,000 ~ \$14,999	0.0777	0.1020	0.4462	1.0808
\$15,000 ~ \$19,999	0.0391	0.1045	0.7084	1.0399
\$20,000 ~ \$24,999	0.0297	0.1008	0.7683	1.0301
\$25,000 ~ \$34,999	0.2228	0.0984	0.0237	1.2496
\$35,000 ~ \$44,999	0.0048	0.0994	0.9619	1.0048
\$45,000 ~ \$54,999	0.2041	0.0992	0.0400	1.2264
\$55,000 ~ \$64,999	0.2040	0.1010	0.0433	1.2263
\$65,000 ~ \$74,999	-0.1774	0.1043	0.0890	0.8374
\$75,000 ~	0.2238	0.0989	0.0236	1.2508
C Feature	0.3004	0.0955	0.0017	1.3504
B Feature	0.6503	0.0549	< 0.001	1.9161
A Feature	1.2969	0.0463	< 0.001	3.6579
Super A Feature	0.5463	0.0632	< 0.001	1.7269
Lobby Display	0.4244	0.0414	< 0.001	1.5287
Front End Display	0.4840	0.0539	< 0.001	1.6226
Mid Aisle Display	-0.5365	0.1428	< 0.001	0.5848
Back End Display	-1.1178	0.2527	< 0.001	0.3270
Specialty Display	0.5234	0.0527	< 0.001	1.6878
Shipper Display	0.2684	0.0453	< 0.001	1.3079
Promotional Display	0.3344	0.0813	< 0.001	1.3971
C1	-0.1500	0.0900	0.0954	0.8607
C2	0.3142	0.0293	<0.001	1.3692
C3	-0.0145	0.1072	0.8927	0.9856
C4	0.2420	0.1300	0.0626	1.2739

advertising have significant positive effects in increasing the purchase probability of products. It is interesting that the parameter for “A feature” advertising is nearly twice(1.2969) that of other types of feature advertising. This might be of interest to store managers in composing the most effective feature advertising strategy with a limited marketing budget. Estimation results involving the display of the product are also insightful in finding the tangible effects of product display. All display related parameter estimates are significant at the 99% confidence level. However, it is interesting to note that the parameter estimates for “Back-End Display”(-1.1178) and “Mid-Aisle Display”

(-0.5365) are negative, representing that the purchase probability of products displayed in these areas are only 33% and 59% of the purchase probability at the base level. Other types of display options such as “Lobby”, “Front-end”, “Specialty”, “Shipper” and “Promotional” which increases the exposure of products to customers have positive effects on purchase likelihood as expected. This result confirms the belief that product placement within the store has significant impact on consumer’s purchase behavior. Although the specific estimates for these control variables vary for each product categories, the general pattern of the above findings remain consistent. These results show that other promotion

activities are indeed effective in increasing the product purchase probability and therefore, a viable option for retail managers looking to increase the demand of a product.

#### 4.2.3 Results for the heterogeneous coupon effects

After confirming the positive effects of various types of promotion, we now turn our focus on the main question of determining the heterogeneous

effects of different coupons on product categories, defined in <Table 1>. For the sake of saving space we only present the maximum likelihood parameter estimates of coupon variables, C1, C2, C3 and C4 in <Table 5>, which were defined in equation (1) as we are interested in the effects of various coupon types on different product categories.

In order to facilitate the reader's understanding of <Table 5>, we present the coupon variables which were significant at the 95% confidence level for each product category in bold characters.

<Table 5> Maximum likelihood estimates of heterogeneous promotion effects

Category	SIC	Parameter	Estimate	Standard Deviation	P-value	Odds ratio
1	201	C1	-0.1500	0.0900	0.0954	0.8607
		<b>C2</b>	0.3142	0.0293	<0.001	1.3692
		C3	-0.0145	0.1072	0.8927	0.9856
		C4	0.2420	0.1300	0.0626	1.2739
2	202	<b>C1</b>	1.3034	0.0932	<0.001	3.6818
		<b>C2</b>	0.1308	0.0225	<0.001	1.1397
		C3	0.3146	0.6104	0.6063	1.3696
		<b>C4</b>	1.0545	0.1244	<0.001	2.8705
3	204	<b>C1</b>	0.6822	0.0429	<0.001	1.9783
		<b>C2</b>	0.7542	0.0168	<0.001	2.1258
		C3	-0.3069	0.5884	0.6019	0.7357
		<b>C4</b>	2.1729	0.0622	<0.001	8.7842
4	206	<b>C1</b>	0.7327	0.1435	<0.001	2.0807
		<b>C2</b>	0.4458	0.0661	<0.001	1.5617
		C3	1.1223	1.7761	0.5274	3.0720
		<b>C4</b>	-0.3674	0.4192	0.3808	0.6925
5	208	<b>C1</b>	0.3096	0.0485	<0.001	1.3628
		<b>C2</b>	1.1586	0.0335	<0.001	3.1854
		<b>C3</b>	0.1090	0.0374	0.0035	1.1152
		<b>C4</b>	2.0227	0.1407	<0.001	7.5583
6	209	<b>C1</b>	0.6447	0.0861	<0.001	1.9054
		<b>C2</b>	0.6054	0.0333	<0.001	1.8320
		<b>C3</b>	0.2710	0.0774	<0.001	1.3113
		<b>C4</b>	0.5197	0.0795	<0.001	1.6816
7	283	<b>C1</b>	0.7574	0.1754	<0.001	2.1328
		<b>C2</b>	1.2943	0.0583	<0.001	3.6486
		C3	-1.3950	1.0323	0.1766	0.2478
		C4	-10.6607	91.6732	0.9074	0.0000
8	284	<b>C1</b>	0.5728	0.0425	<0.001	1.7733
		<b>C2</b>	0.3802	0.0180	<0.001	1.4625
		C3	0.3530	0.4940	0.4749	1.4234
		<b>C4</b>	0.9946	0.0949	<0.001	2.7037

The interesting findings from our analysis is that, depending on the product categories not all type of coupons seem to be effective in increasing the purchase likelihood. For instance, all four types of coupons are effective in increasing the product purchase likelihood only in product category 5(softdrink) and 6(snacks, coffee). In comparison, for product category 1(bbq sauce) the only effective coupon type is C2, i.e. coupons with pull intention. Overall, understanding that there exists heterogeneity in terms of effective coupon types for different product category is important as it would allow the retailers to devise a more effective coupon promotion strategy. The results from our analysis show that indeed not all coupon types are worth pursuing in certain product categories.

However, we also find that C1 type coupons, such as instant redeemable coupons and act now coupons, are effective in all but one(bbq sauce) product categories. We strongly believe that this prevalence of C1 type coupons across different product categories is related to hedonic shopping motivation even though we are dealing with a utilitarian store. Current literature shows that about 70% of shoppers make the purchase decision in the store(Hui et al. 2013; POPAI 2012; Yim et al. 2014). If shoppers are showing hedonistic shopping behavior, it is indeed logical to conclude that coupons which one can use now compared to later, may sway shoppers' purchase decisions. Combined with our result, we see that C1 type coupons, which are instant use type coupons, are the most effective type of coupons in increasing the purchase likelihood of the consumers.

It is also of interest to find significant difference in parameter estimates for different coupon types. For

example, in product category 5(soft drink) all four coupon types have significant positive effects. However, we also see that the parameter estimates for C2(1.158) and C4(2.022) are significantly greater than the estimates of C1(0.309) and C3(0.109). In terms of odds ratio this result means that pull intention coupons and store specific coupons increase the odds of purchase by 3~7 times whereas hedonistic intention and push intention promotions increase the odds of purchase marginally. Contrastingly, in product category 6(snacks, coffee) where all four types of promotions are effective as product category 5, the effectiveness of coupons are similar regardless of their type. This again is an interesting finding as retail managers, usually facing a limited marketing budget, can decide on the type of coupons to distribute based on their effectiveness and hence optimize their operational strategies.

Finally, we can also find patterns which may explain why some type of promotions are effective or not effective in certain product categories. One of the patterns that we observe is that store specific promotions, C4, appears to be not effective in product category 1(bbq sauce), 4(nuts) and 7(vitamin pills). Note that compared to other product categories, bbq sauce, nuts and vitamin pills may be linked more with brand loyalty. In products such as barbeque sauce, consumers may be more drawn to specific brands due to their taste. Previous studies(Ailawadi, Neslin and Gedenk 2001; Erdem, Zhao and Valenzuela 2004) on store brand claims that consumers are more likely to be drawn to store brand products on product categories where quality of the product is not as important. In line with previous literature, we could explain the reason

behind heterogeneous effect of store coupons. Take vitamin pills for example, customers are more likely to be sensitive to the brand of vitamin pills even if most of the products are similar in contents as they think of them as semi-medical products and due to the difference in perception on the quality of products. Hence, in these type of products store specific promotions may not be enough to change consumers' initial preference for certain products. In contrast, other product categories, such as paper towel, tissue, detergents, and ice cream etc, are arguably more generic in nature and quality may not be as important in consumer purchase decisions. Also, there are a variety of available store specific brands for consumers to choose from. This may be why store specific promotions are found to be effective in these type of products. In sum, this combination of reasons may be the driving factor behind the heterogeneous effect of store specific promotions.

## V. Conclusion, Limitation and Future Study

Prior research on coupons focused mostly on exposure effects and redemption effects and investigated the overall existence of positive impact on manufacturer profits. Also, they have focused on the impact of coupons in general on category sales or in some cases at the brand levels. Overall, most studies examined the effect of coupons based on homogeneous characteristics in the CPG industry (Barone and Roy 2010; Heilman, Nakamoto, and

Rao 2002; Musalem, Bradlow, and Raju 2008; Pancras and Sudhir 2007; Venkatesan and Farris 2012).

However, in this study we concentrated on analyzing the heterogeneous effect of various types of coupons on consumer purchase behavior in retail stores with applications in formulating promotion strategies. We differentiated the type of coupons by their underlying promotional intentions, hedonic, pull and push intentions, and examined the varying effectiveness of such coupons in different product categories. The results show that overall, not every type of coupons are effective in increasing product purchase probability of consumers in each product category. However, we also find from the results that the most prevalent and effective coupon for retailers to utilize is the one with hedonistic intentions. We see that coupons with hedonistic intentions are effective in increasing product purchase probability of consumers in all but one product category (Barbeque sauce). We strongly believe that this result is related to previous research finding of over 70% of shoppers making purchase decisions in stores (POPAI 2012; Yim et al. 2014).

Another finding from the results is that the size of the positive effects from various coupon types are differentiated by the product categories and we also provide some insights in why this existence of heterogeneity can be found. All in all, our results clearly indicate that simplifying coupons as a whole in studying their effects on consumer purchase behavior is inadequate and contribute to the current literature by accounting for the differences in coupons by their respective intentions is crucial in analyzing the effectiveness of various coupon

promotion strategies.

Furthermore, these results may have strong impacts on retail managers interested in making good decisions regarding marketing and promotional activities. First of all, we show that just blindly following any coupon promotion strategy regardless of the product category, will be an inefficient utilization of a constrained marketing budget for retail managers. For example, in some product categories certain type of coupons were found to be ineffective and hence there is a need to have a differentiated coupon promotion strategy for each product category. Combining with other results from our study, when faced with a limited budget the retail manager should focus on distributing coupons which were most effective in the respective categories. Second, as mentioned above the most prevalent form of coupons found in almost all product categories was hedonic intention promotion. Coupled with other factors which affect consumers' shopping experience, such as music and store layout etc, focusing on hedonic intention coupons and promotion strategy can be a more coherent and concerted marketing strategy for retail managers. Finally, it has been argued in the literature(Ailawadi, Neslin and Gedenk 2001) that planning and impulsiveness may act together and that promotion usage in general is consistent with both tendencies. Our findings suggest a way to take advantage of these characteristics by targeting the planning aspect of consumers with specific type of coupons which is found to be effective in certain categories, as well as encouraging the utilization of hedonistic type of coupons.

Future studies using other data-collection methods,

may explore more on the brand-level relationships and the effects of different type of coupon promotions on consumer purchase at the micro level. Unfortunately, we have limited secondary level data. The dataset we used did not distinguish the brand of products purchased by the consumers and therefore, our analysis was limited at the product category level. Analysis on brand level data may provide us with insight on specific individual firm strategies, brand switching among products and exploring the effect of coupon types on consumer choice between different brands within each product categories. For such case, future studies may venture in examining the factors behind category differences at the brand levels as one needs to consider that coupon promotions are associated with brand as well as product category specification.

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# 쿠폰은 효과적인 촉진도구인가?

## -대형 유통매장에서 쿠폰유형이 이질적 제품군에 미치는 영향을 중심으로\*-

김범수\*\*, 서주환\*\*\*

### 요 약

본 연구는 대형 유통매장에서 다양한 쿠폰의 유형이 제품 유형별 소비자 구매행태에 미치는 영향을 살펴보기 위해 쾌락적 의도, 추진 의도, 유인 의도 등 다양한 의도를 갖춘 쿠폰을 분석하여 각 유형별 쿠폰이 일반적으로 소비자 상품 구매 지향성에 어떠한 이질적 효과를 끼치는지에 대해 입증하였다. 이어 좀 더 구체적인 결과를 얻기 위해 각 제품 유형에 따른 쿠폰의 효율을 분석·정리하였고, 그 결과 상품 유형에 따라 효과적인 쿠폰의 유형은 다를 수 있다는 결론을 얻을 수 있었다. 이러한 분석결과는 소매상 및 나아가 제조회사가 때때로 제한적일 수 있는 마케팅 자원을 현재보다 좀 더 효율적으로 배분해야 한다는 의미를 시사한다. 마지막으로 본 연구는 여러 유형의 쿠폰들 중 가장 효율적이며 시장에서 널리 사용되고 있는 종류의 쿠폰은 소비자의 쾌락적 의도를 자극하는 목적을 지니고 있음을 확인했다.

키워드 : 쿠폰, 판촉, 제품 유형, 소비자 구매 행태, 유통매장

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