Aware 105

An Analysis of Social & Environmental Impact on Consumer Shopping Behavior

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Executive Summary

The AWARE project was created based on one problem: that people do not buy based on social or environmental issues, not because they do not care, but because they do not know that the problems exist when making their purchases. If so, then the AWARE product, a shopping information manager designed to interface with a standard PDA, may be a good solution to the problem. Specifically, the AWARE team was charged with creating, distributing, and analyzing the results of an online survey to evaluate whether there is any need for social and environmental information in purchasing decisions and, if so, whether such information has any effect on price. The team received over 1,100 responses to its survey and determined, using regression and latent class analysis, that there was a need for this type of information and that it did have an effect on price.

The AWARE team created a survey that asked general questions about grocery shopping behavior and the importance of certain issues (price, environmental friendliness, etc.) when grocery shopping. The survey also provided respondents with six different products, gave descriptions of those products, and asked the respondent to estimate the price of those six items. Descriptions were "randomized" into four categories based on the respondent's day of birth. For the first three products, descriptions either contained "environmentally-friendly" qualities or "normal" qualities. For the final three products, descriptions were the same, but each manufacturer was color-coded (red, yellow, grey, green) based on ratings provided by Co-Op America. The team recognizes that potential biases and limitations within the survey could have distorted data, but, overall, the team is extremely satisfied with the results.

In its analysis, the AWARE team identified a segment of respondents it believes would be ideal customers for an AWARE-type product. This segment was very concerned about the environmental friendliness of products, was evenly split between genders, was in the age range of 30-60, and tended to have an annual household income of over $90,000. The team also performed additional analysis on this segment to determine the shopping habits, political affiliation, and level of education for this target segment.

Because of limitations within the survey and/or data uncovered from the survey, the AWARE team would make the following recommendations: 1) Further investigate the preferred delivery method of this type of information before proceeding with an AWARE prototype; 2) Recognize product limitations based on where customers shop; 3) Consider evaluating products based on product category; 4) Incorporate real brands into a second survey.

Introduction and Research Goals

Did you ever notice that people do not buy based on environmental friendliness or social issues not because they do not care, but because they do not know? If this assertion is valid, then AWARE could be an efficient means of providing such information. AWARE is a shopping information manager helping consumers make more informed decisions. The AWARE prototype is usable with standard consumer-owned PDAs and contains a barcode scanner and a wireless Internet connection, allowing real-time downloading of product information from a central database. Moreover, AWARE users can customize their device by choosing which kinds of product information they are concerned about.

Above all, the AWARE project requires an assessment of whether there is any need for social and environmental information in purchasing decisions and, if so, whether such information has any effect on price.

Thus, the first step is to design and analyze a preliminary survey. However, the information contained in this survey does not include the AWARE prototype, but rather general or hypothetical questions to assess consumer reaction to environmental and social information.

Survey Design and Collection

The survey we created was divided into three parts: introduction, price estimates, and demographics:

Introduction: The introduction section sought information on the shopping habits of the respondent, such as whether the respondent was the primary shopper in his/her household, how often the respondent did his/her shopping, and who else influenced

purchasing decisions. The section also asked the respondent to rate the importance of various issues (price, brand, environmental friendliness, etc.) when grocery shopping.

Price Estimate: The price estimate section asked the respondent to estimate the price of 6 products across a wide range of categories: coffee, T-shirts, shampoo, detergent, fruit juice, and household cleaners.

- For each of the six products, the respondent was provided with a description of the product, as well as a general price range, and asked to estimate the price that he/she would expect to pay for that product.
- For the first three products, respondents were provided with two different sets of product descriptions, a "green" version with environmentally-friendly descriptions, or a "regular" version that did not contain environmentally-friendly descriptions. The following list describes which product descriptions made each product "green":
    - Coffee – 100% environmentally-friendly manufacturing
    - T-shirt – 100% organic cotton
    - Shampoo – No chemicals added; 100% biodegradable ingredients
- For the final three products, respondents were presented with the same product descriptions, but products were color-coded (red, yellow, grey, green) based on ratings from Co-Op America (www.responsibleshopper.org), a non-profit organization that provides tools and analysis on social and environmental issues of potential concern or interest to consumers.
- Descriptions and color-coding were "randomized" into four categories based on the respondent's day of birth as in Figure 1.

Figure 1: Random allocation of color–code into four categories

	1	2	3	4
Coffee	Green	Normal	Green	Normal
T-shirt	Normal	Green	Normal	Green
Shampoo	Green	Green	Normal	Normal
Detergent	Green	Grey	Yellow	Red
Fruit Juice	Red	Green	Grey	Yellow
Cleaner	Yellow	Red	Green	Grey

- A final point to note is that the survey was *not* trying to identify the exact price that a consumer would be willing to pay for a product. Rather, it was trying to measure the price that consumers would be willing to pay *relative to* the other products in that category to establish whether premiums existed based on the environmental friendliness ("green" vs. "regular") and color coding (red vs. yellow vs. grey vs. green) of the products.

Demographics: The final section sought to obtain potentially relevant demographic information, such as ethnicity, gender, household income, and political affiliation of the respondent.

The group decided to create an online survey via HRGems (www.hrgems.com). The target audience for the survey was a representative sample of the entire US population. To target this audience, the team used several different methods. First, we distributed the survey to friends, family, and colleagues. We also posted a link to our survey on approximately 25 different internet message boards addressing topics such as health, technology, and exercise. (We used the same list of message boards that the last AWARE Marketing team used in 2002.) Finally, the team purchased a list of email addresses from Listguy (www.listguy.com) and sent a request to 500,000 email addresses asking them to fill out our survey. In total, we received approximately 1,100 completed

surveys (approximately a 0.2% response rate) and used both regression and latent class analysis to interpret our results.

The team believes that several potential biases were present in the survey. First, a survey asking about social and environmental responsibility may automatically bias the respondent. Second, respondents may not be answering truthfully, especially relating to willingness to pay or if they were offended by receiving our request to answer the survey (i.e. they were "spammed"). Finally, the Co-Op America ratings were potentially biased estimates of a company's social and environmental performance and may not reflect a company's "true" performance in those particular areas.

Analysis and Results

Price premium based on Mean and Regression analysis

There appear to be good results towards people's price premium perception based on environmental friendliness of the product/company. Figure 2 shows the average and median price for each of products according to different levels of environmental friendliness. While some of the results are a little inconclusive (due in part, perhaps, to the fact that respondents were confused over the four-colored ratings system), the overall results should be encouraging for AWARE's feasibility in terms of the assumption that environmental friendliness affects consumers' willingness to pay.

Figure 2: Price premium on environmental friendliness survey results

		Average	Premium	Median	Premium	Stddiv
Coffee	Green*	$7.78	**5.40%**	$7.50	**7.14%**	2.18
	no description	$7.38		$7.00		1.95
T-Shirt	Green*	$21.32	**4.65%**	$20.00	**0.05%**	6.45
	no description	$20.38		$19.99		5.66
Shampoo	Green*	$5.32	**20.05%**	$5.00	**25.00%**	2.42
	no description	$4.43		$4.00		1.98

Green* : ex. 100% environmentally friendly manufacturing

Detergent	Green	$7.04	**11.73%**	$7.00	**16.67%**	1.74
	Grey	$6.85	**8.70%**	$6.99	**16.50%**	1.60
	Yellow	$6.40	**1.68%**	$6.00	**0.00%**	1.58
	Red	$6.30		$6.00		1.67
Fruit Juice	Green	$2.37	**21.80%**	$2.00	**11.73%**	0.95
	Grey	$2.17	**11.68%**	$2.00	**11.73%**	0.81
	Yellow	$2.15	**10.23%**	$2.00	**11.73%**	0.84
	Red	$1.95		$1.79		0.91
Cleaner	Green	$4.38	**17.09%**	$4.00	**33.33%**	1.40
	Grey	$3.74	**0.00%**	$3.74	**24.67%**	1.27
	Yellow	$3.95	**5.62%**	$3.50	**16.67%**	1.35
	Red	$3.74		$3.00		1.36

In order to validate correlation between price premium and environmental friendliness, we applied simple linear regression to each product. Figure 3 shows results of the regression analysis and Exhibits 1 – 6 show detail of each regression results.

Figure 3: Regression results of price premium

	Price		Premium	**P- value**		T test statistics	
	Base	Premium	% of price	Base	Premium	Base	Premium
Coffee	$7.38	$0.40	5.40%	0.0000	**0.0014**	81.5443711	3.20898018
T-Shirt	$20.38	$0.95	4.65%	0.0000	**0.0088**	82.2448366	2.62264328
Shampoo	$4.43	$0.89	20.05%	0.0000	**0.0000**	45.8608437	6.67908302
Average			**10.04%**				

Green / Regular

Detergent	$6.24	$0.27	4.30%	0.0000	**0.0000**	72.3621391	6.01205882
Fruit Juice	$1.96	$0.13	6.69%	0.0000	**0.0000**	45.0927211	5.67703367
Cleaner	$3.29	$0.32	9.75%	0.0000	**0.0000**	49.3606473	8.93317542
Average			**6.92%**				

Red / Grey / Yellow / Green

According to the regression in Figure 3, given almost 0 P-values in all the cases, we conclude that price premiums are explained by a linear equation for all six products. For example, Detergent price is $6.24 when the product has a RED rating, and every one-step improvement of the status gives the consumer a $0.27 premium, which is 4.3% of base price. On average, there is a 10.04% premium over the base price of products for an environmentally-friendly product ("green" vs. "regular") and a 6.92% premium for every one-step improvement of product status (ex. Yellow -> Grey). It is important to note, however, that the R^2 values for these results are very low, meaning that this regression does not fully explain changes in price across these products.

Note. – As shown by **Exhibit 14**, prices given by our sample population are very weakly correlated and thus can be considered as not correlated. These results also confirm that price premiums exist between different levels of environmental friendliness for each product, as in Figure 1. Moreover, **Exhibit 15** shows that the correlation between two non-price-related answers is weak, unless these two answers are straightforward – for example, if you are familiar with the description of the household cleaner product, you are likely to be familiar with that of the detergent.

Latent Class Analysis

Why LCA?

Since we used many Likert scale questions in our survey, we were able to get a very good mix of categorical and ordered categorical data from our survey respondents. Our Survey had a very relevant question in the first part where the respondents were asked to rate as to how certain factors like 'environmental friendliness of the product/company' and 'social responsibility of the manufacturer' influenced their purchasing decisions (Refer to Question 5 in the survey – **Exhibit 7**). We believe that the rating responses to several factors while answering this question, along with the ordered categorical data like the demographic section in the last part of the survey (Refer to Part 4 of the survey), enabled us to use LCA and split the respondents into possible classes with clear segmentation about attitudes towards the environmental and social responsibility factors mentioned above. Our goal was to see if we will be able to identify the segment that really cares about environmental and social issues and whether LCA will enable us to specify the demographic characteristics of this segment.

LCA Steps:

The LCA Excel plug-in that we used for our project had certain limitations regarding data processing. For example, we could only process data with less than 30 attributes. Also, the response data should be in numerical format (numbers 1 to 8) instead of our survey data format (letters a-h). Therefore, we had to pre-process our survey data as follows:

- We downloaded the survey response data in an Excel spreadsheet from HRGems
- We used MS Access to filter incomplete data
- As explained above, we chose the following attributes most relevant to our research:

- Shopping Attitude data (categorical data) – Price, Quality, Brand, Social Responsibility, Environmental Issues
- Demographic data (ordered categorical data) – Gender, Age, Income, Education, Political Affiliation

- We codified all the data (Changed alphabetical responses 'a' to 'h' to numerical format '1' to '8')
- We used the LCA plug-in for Excel

Major findings:

We were very pleased with our results. LCA was indeed helpful in segmentation, producing the following results (Refer to **Exhibit 8** for a Snapshot):

- We were able to classify people into 5 groups (ideal as it gave us the smallest CAIC)
- The largest segment of respondents (35% of all respondents) was very concerned about Environment and Quality (Refer to highlighted sections in Green in **Exhibit 8**)
- We had a well-defined Demographic profile of this segment of respondents − Gender evenly split, Age-range of 30-60, Higher income group

Additional findings - Further analysis of survey respondents in the target segment:

We took the LCA results and tried to analyze further the people who fall under our recommended target category (i.e. people who care more about factors like environmental friendliness of the product or company and social responsibility of the manufacturer).

In order to analyze the survey responses of the respondents falling in our target category, we first identified specific respondents in this category (see **Exhibit 9** LCA output -

respondents with membership probabilities of over 75%). After identifying these people, we used MS Access to retrieve their responses from the original survey response database. Subsequently, we did some basic spreadsheet analysis to find any additional information about them. Some of the findings can be summarized as:

- Target respondents prefer Chain Supermarkets as their principal grocery store: Over half of the respondents prefer to do their Grocery shopping at traditional Chain Supermarkets (55% of the respondents), followed by a quarter of respondents preferring Natural/Organic Food Stores (25% of the respondents).

  Refer to **Exhibit 10** for a graphical representation of responses.

- Target respondents do their grocery shopping 4-6 times a month: Over half of the respondents do their Grocery shopping 4-6 times a month (52% of respondents), followed by two equal segments of respondents doing their shopping 2 times or 10-20 times a month (~20% each). Refer to **Exhibit 11** for a graphical representation.

- Target respondents are predominantly Democrats or Independents when it comes to their political affiliation. Over half of the respondents (58% of respondents) identify themselves as Democrats. Refer to **Exhibit 12** for a graphical representation of responses.

- A majority of our target respondents are highly educated, with over 70% of them having completed some form of Graduate school. The next class of respondents belongs to the category of having partially completed some Graduate school (14% of respondents). Refer to **Exhibit 13** for a graphical representation of responses. While those who have had at least some graduate school may be more likely to complete a survey of this nature, thus introducing some bias into the results, we believe that the underlying results, that those who are more concerned about social and environmental

issues tend to be highly educated, are accurate.

Recommendations and Next Steps

Based on our analysis, the AWARE team makes the following recommendations:

1) Identify additional "environmentally-friendly" qualities

In the first product-price section, respondents were asked to estimate a price given a set of product descriptions. Each product contained a specific quality that is generally considered to be environmentally-friendly (i.e. a "green" quality). However, not all respondents were aware of, cared about, or were willing to pay a premium for this "green" trait. For example, many respondents may not care that a shampoo "contains 100% biodegradable ingredients", or they may not be willing to pay a premium for such a quality. Because these were specific traits, we believe that our survey did not measure the general willingness to pay for environmentally-friendly products; rather, it measured whether respondents were willing to pay a premium for specific "green" traits, such as "100% organic cotton" for a T-shirt. The team believes that other product attributes may be more significant when determining whether respondents would pay a premium and, if so, how much of a premium they would pay for a "green" product. Therefore, we would recommend conducting further research to determine which "green" attributes would make products more desirable to respondents.

2) Further investigate delivery method before prototype testing

How to customers wish to receive this type of information? Do they want information through an electronic device, such as a PDA or cell phone, or do they prefer that the information be posted via physical means, such as next to the item? If customers do not want an electronic medium, they will not consider AWARE.

3) Recognize limitations based on where customers shop

Over half of the group we targeted as being potential customers for AWARE shop at chain supermarkets, while over 60% shop at some sort of chain store (see **Exhibit 10**). We believe that these customers would be good candidates for an AWARE-type product because little, if any, attention is paid at these stores to social or environmental issues when determining product selection. However, we believe that customers who are most likely to purchase the product are the ones who already shop at a whole/natural food store. This is significant because many of these stores already take social/environmental issues into account when determining product selection. Thus, the need for a product such as AWARE could be diminished significantly for customers shopping at natural food stores. To address this, we would recommend also highlighting the other services, such as the dietary monitor, to encourage these customers to purchase AWARE.

4) Evaluate products based on category/type

According to our data, fruit juice results were somewhat inconclusive, whereas it was quite obvious that for other items such as shampoo, there was a premium. The team has two ideas where we would recommend further analysis: consumers are more likely to pay price premiums on high-end/high-price items (coffee, shampoo, etc.) than low-end/low-price products (soft drinks, candy, etc.); and price premiums may be dependent upon the genre of the product (personal care products, cosmetics, cleaners, etc.). While this survey lacks data to perform such analysis, we recommend gathering data in an additional survey to evaluate these hypotheses.

5) Incorporate real brands into a survey

Our survey indicates that social/environmental issues impact price for *generic* goods, but what happens when real product, brand, and company names are introduced? Past

purchasing behavior is by far the best indicator of future purchase intent; if AWARE fails to convince people to change their buying habits because they are brand-loyal, then the product will fail. We suggest a second survey, this time using real names, with the same color-coded test. This time the product would be, for example, Tide; the product description would remain the same, and the respondent would be asked to estimate price based on the manufacturer's (in this case P&G's) color rating (red, yellow, grey, green). Also, include an answer option asking whether the respondent would be willing to purchase the product. This may indicate what the acceptable color ratings are for different products.

Exhibit 1. Regression results for Coffee price premium

r	r^2	Aj. r^2	SE	Observ.
0.095	0.009	0.008	2.077	1122

Source of Variation	Sum of Squares	DoF	Mean Squares	F Test Statistic	p-Value One Tailed
Regression	44.415	1	44.415	10.298	0.0014
Residual	4830.69246	1120	4.313		
Total	4875.10702	1121			

Model	b	Std. Error	Stand. Coeff. Beta	Test Statistic	p-Value Two Tailed	B Lower 95% CL	B Upper 95% CL
Constant	7.377	0.090		81.544	0.0000	7.200	7.554582
G/N	0.399	0.124	0.095	3.209	0.0014	0.155	0.642404

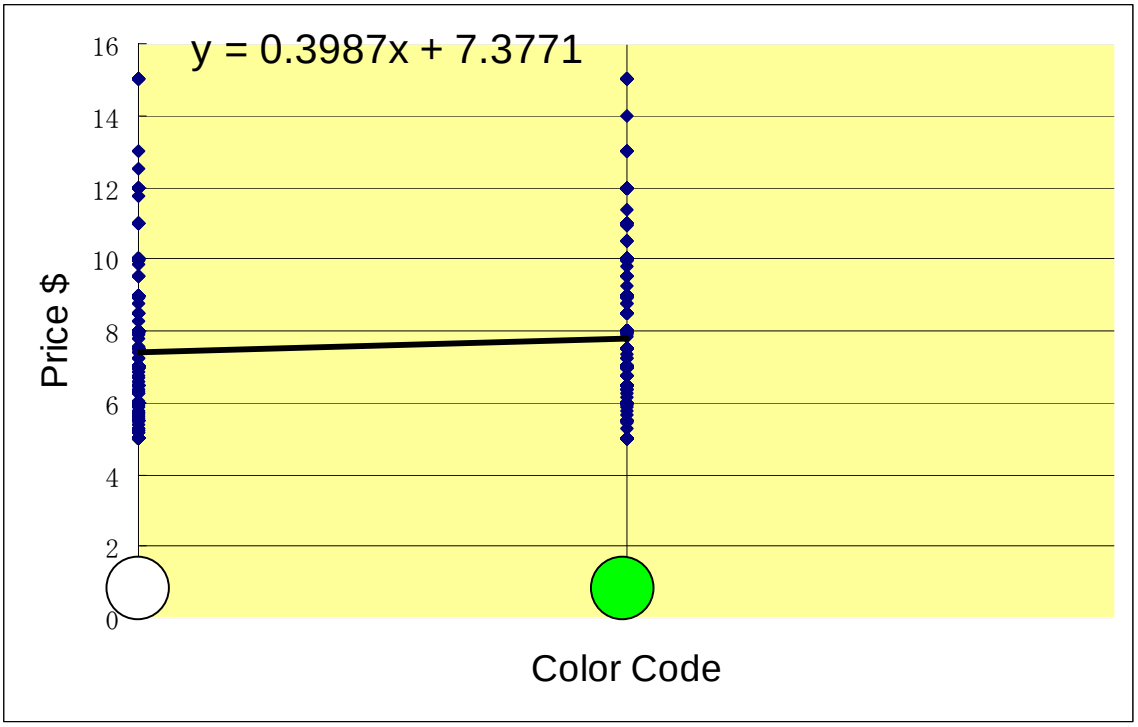

Exhibit 2. Regression results for T-Shirt price premium

r	r^2	Aj. r^2	SE	Observ.
0.078	0.006	0.005	6.043	1122

Source of Variation	Sum of Squares	DoF	Mean Squares	F Test Statistic	p-Value One Tailed
Regression	251.183804	1	251.184	6.878	0.0088
Residual	40900.7441	1120	36.519		
Total	41151.9279	1121			

Model	b	Std. Error	Stand. Coeff. Beta	Test Statistic	p-Value Two Tailed	B Lower 95% CL	B Upper 95% CL
Constant	20.375	0.248		82.245	0.0000	19.889	20.86152
G/N Ts	0.948	0.361	0.078	2.623	0.0088	0.239	1.657306

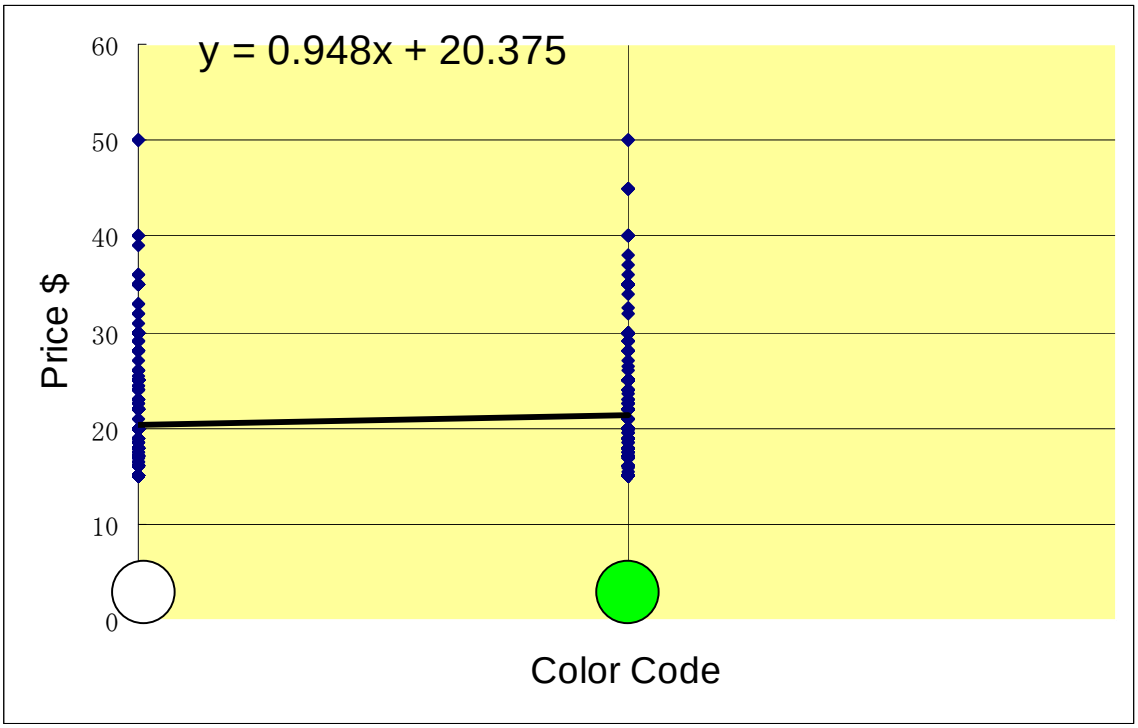

Exhibit 3. Regression results for Shampoo price premium

r	r^2	Aj. r^2	SE	Observ.
0.196	0.038	0.037	2.223	1122

Source of Variation	Sum of Squares	DoF	Mean Squares	F Test Statistic	p-Value One Tailed
Regression	220.40538	1	220.405	44.610	0.0000
Residual	5533.58429	1120	4.941		
Total	5753.98967	1121			

Model	b	Std. Error	Stand. Coeff. Beta	Test Statistic	p-Value Two Tailed	B Lower 95% CL	B Upper 95% CL
Constant	4.428	0.097		45.861	0.0000	4.238	4.617347
G/N Sh	0.888	0.133	0.196	6.679	0.0000	0.627	1.148588

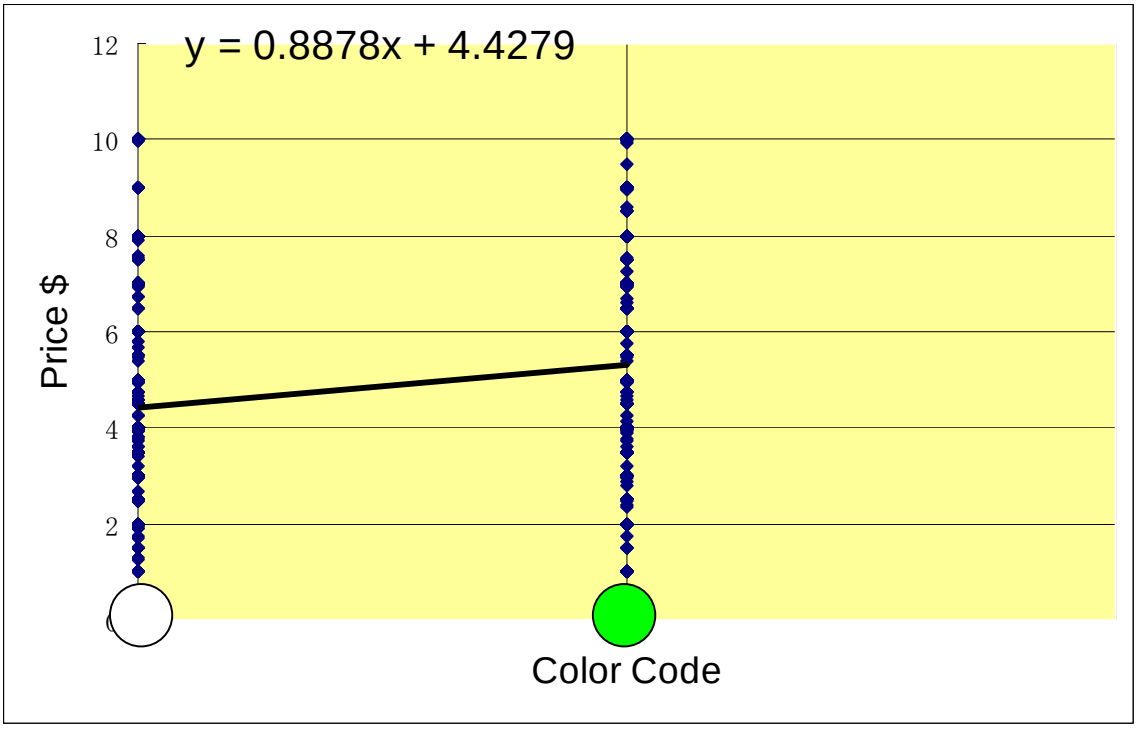

Exhibit 4. Regression results for Detergent price premium

r	r^2	Aj. r^2	SE	Observ.
0.177	0.031	0.031	1.648	1118

Source of Variation	Sum of Squares	DoF	Mean Squares	F Test Statistic	p-Value One Tailed
Regression	98.216	1	98.216	36.145	0.0000
Residual	3032.50949	1116	2.717		
Total	3130.72598	1117			

Model	b	Std. Error	Stand. Coeff. Beta	Test Statistic	p-Value Two Tailed	B Lower 95% CL	B Upper 95% CL
Constant	6.240	0.086		72.362	0.0000	6.071	6.409655
GGYR De	0.268	0.045	0.177	6.012	0.0000	0.181	0.35599

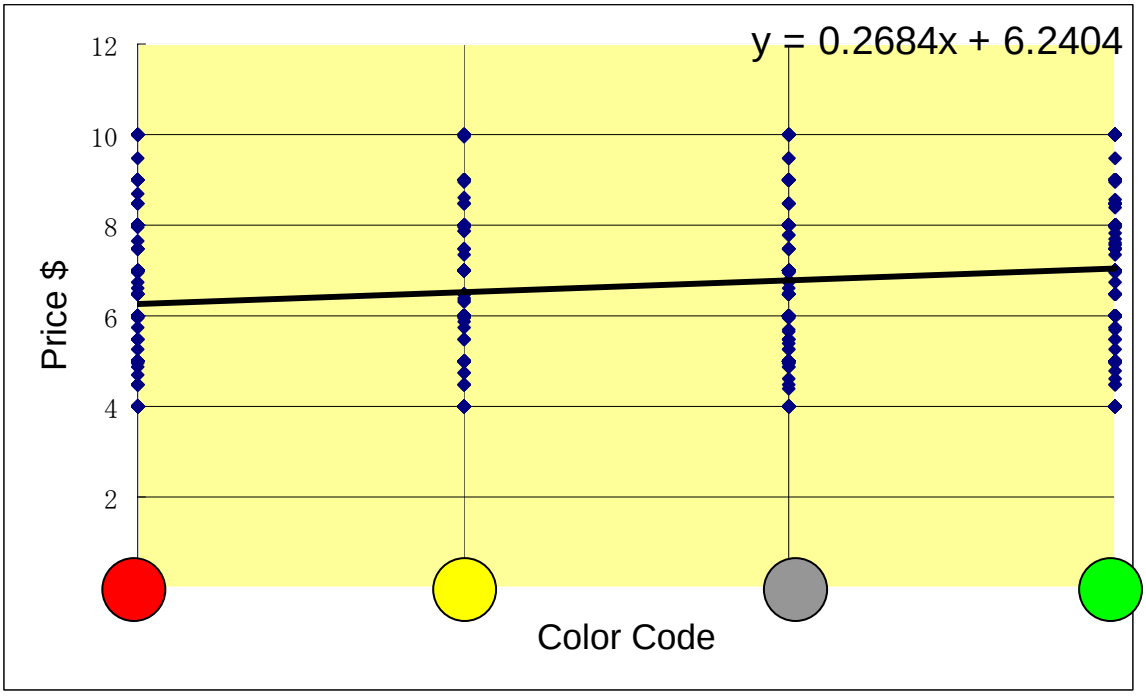

Exhibit 5. Regression results for Household cleaner price premium

r	r^2	Aj. r^2	SE	Observ.
0.258	0.067	0.066	1.355	1118

Source of Variation	Sum of Squares	DoF	Mean Squares	F Test Statistic	p-Value One Tailed
Regression	146.443047	1	146.443	79.802	0.0000
Residual	2047.95886	1116	1.835		
Total	2194.4019	1117			

Model	b	Std. Error	Stand. Coeff. Beta	Test Statistic	p-Value Two Tailed	B Lower 95% CL	B Upper 95% CL
Constant	3.291	0.067		49.361	0.0000	3.160	3.421343
GGYR CI	0.321	0.036	0.258	8.933	0.0000	0.250	0.391293

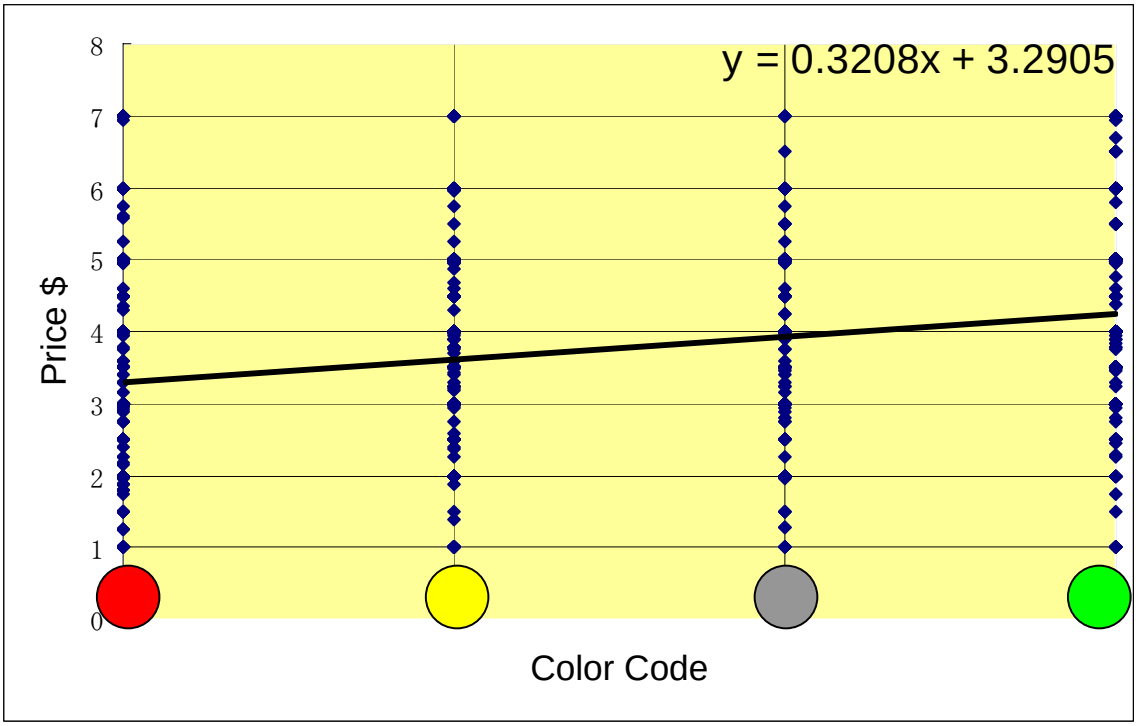

Exhibit 6. Regression results for Fruit juice price premium

r	r^2	Aj. r^2	SE	Observ.
0.168	0.028	0.027	0.883	1118

Source of Variation	Sum of Squares	DoF	Mean Squares	F Test Statistic	p-Value One Tailed
Regression	25.129	1	25.129	32.229	0.0000
Residual	870.162434	1116	0.780		
Total	895.291658	1117			

Model	b	Std. Error	Stand. Coeff. Beta	Test Statistic	p-Value Two Tailed	B Lower 95% CL	B Upper 95% CL
Constant	1.960	0.043		45.093	0.0000	1.875	2.04538
GGYR Fr	0.131	0.023	0.168	5.677	0.0000	0.086	0.17657

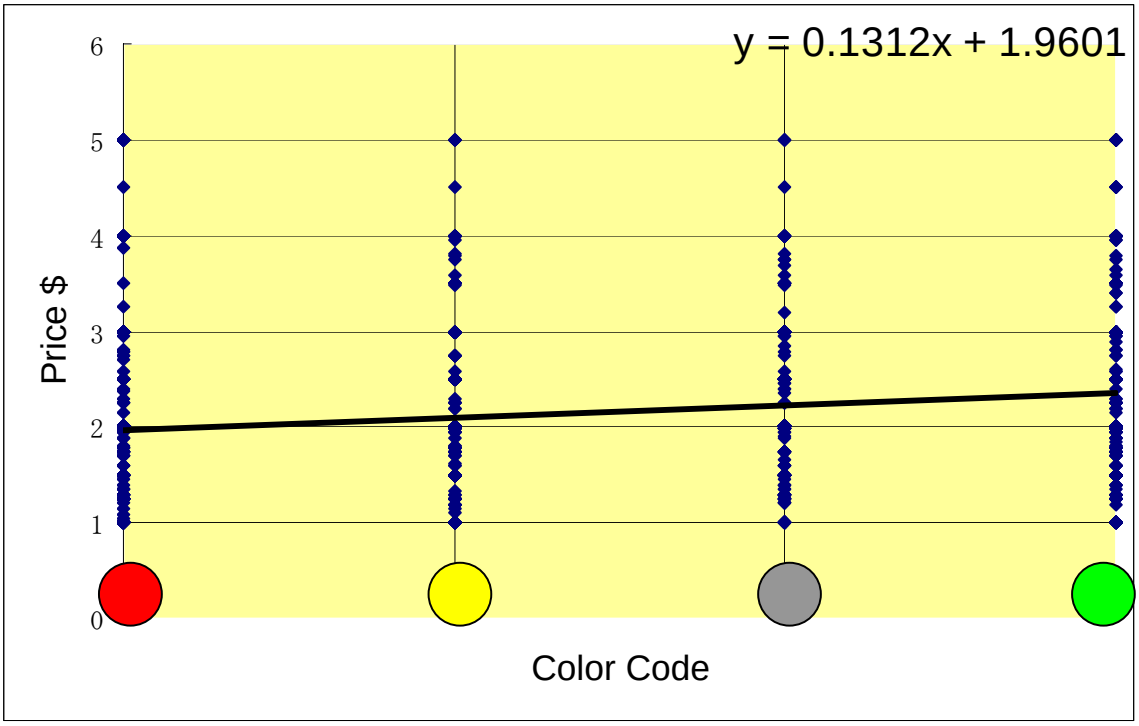

Exhibit 7. Question 5 of the Survey – Question about issues affecting Purchase Decisions

5 As a ***grocery*** shopper, please rate how important the following issues are on a scale of 1 to 7. If you do not know or have no opinion, please select "No opinion".

	Very Unimportant			Neutral			Very Important	Don't Know/No Opinion
1	☐	☐	☐	☐	☐	☐	☐	Price
2	☐	☐	☐	☐	☐	☐	☐	Product Availability
3	☐	☐	☐	☐	☐	☐	☐	Package Size
4	☐	☐	☐	☐	☐	☐	☐	Environmental Friendliness of Product/Company
5	☐	☐	☐	☐	☐	☐	☐	Brand
6	☐	☐	☐	☐	☐	☐	☐	Social Responsibility of Manufacturer
7	☐	☐	☐	☐	☐	☐	☐	Where the Product is Made
8	☐	☐	☐	☐	☐	☐	☐	Quality of Product

Exhibit 8. LCA Results

Marketing Research Tools		Results from the Latent Class Analysis				
Demo under development by	LogLikelihood=	-4387.3	Overlap=	11.8%		
Wagner A. Kamakura (wagner-kamakura@uiowa.edu)	CAIC=	10534.6				
		Response Probabilities within Classes				
	Class Sizes=>	19.5%	18.7%	11.8%	35.1%	14.8%
Item	Response	Class 1	Class 2	Class 3	Class 4	Class 5
Price	1	10.3%	2.0%	43.7%	0.0%	0.0%
	5	5.7%	12.8%	3.5%	17.8%	7.8%
	6	17.4%	31.5%	0.0%	23.8%	33.3%
	7	12.5%	47.3%	9.8%	42.5%	58.9%
Environ	1	0.0%	2.3%	57.9%	1.1%	12.1%
	2	32.5%	22.2%	7.2%	0.0%	7.8%
	3	29.3%	3.9%	1.2%	0.0%	20.1%
	4	26.2%	24.4%	21.2%	8.3%	12.3%
	5	0.0%	33.6%	6.1%	29.6%	35.0%
	6	3.4%	9.5%	6.4%	27.8%	7.7%
	7	8.6%	4.1%	0.0%	33.2%	5.0%
Brand	1	0.0%	0.0%	9.5%	6.0%	27.8%
	2	22.0%	9.8%	14.5%	9.7%	0.0%
	3	19.2%	5.9%	16.1%	6.9%	4.4%
	4	11.2%	19.8%	47.4%	16.8%	15.5%
	5	23.5%	29.3%	3.2%	22.6%	45.0%
	6	18.2%	29.6%	0.0%	24.7%	4.7%
	7	6.0%	5.7%	9.4%	13.2%	2.6%
Soc Res	1	5.7%	6.3%	56.2%	0.0%	20.0%
	2	29.5%	14.7%	3.5%	0.0%	5.6%
	3	20.2%	10.4%	13.9%	0.0%	27.7%
	4	17.9%	29.8%	22.8%	10.4%	18.6%
	5	4.7%	16.0%	3.7%	36.1%	28.0%
	6	9.8%	20.8%	0.0%	34.3%	0.0%
	7	12.2%	2.1%	0.0%	19.2%	0.0%
Where	1	6.1%	16.5%	36.6%	6.5%	19.5%
	2	23.6%	20.3%	16.9%	9.1%	13.8%
	3	28.6%	11.8%	7.4%	2.2%	20.7%
	4	21.9%	20.8%	25.7%	13.8%	25.6%
	5	2.0%	14.0%	3.2%	27.3%	20.4%
	6	4.1%	14.6%	6.9%	22.6%	0.0%
	7	13.7%	2.0%	3.3%	18.5%	0.0%
Quality	1	17.0%	2.2%	73.6%	1.2%	0.0%
	5	0.0%	14.8%	0.0%	3.5%	17.8%
	6	7.3%	13.0%	3.8%	10.9%	56.0%
	7	47.8%	63.6%	3.4%	84.4%	21.7%
Gender	1	71.9%	26.8%	22.3%	46.4%	56.7%
	2	26.3%	71.3%	77.7%	53.6%	40.9%
Age Rng	1	0.0%	0.0%	0.0%	0.0%	2.4%
	2	0.0%	70.6%	17.7%	3.3%	37.2%
	3	23.8%	24.7%	12.1%	15.9%	39.1%
	4	11.1%	0.0%	10.4%	21.1%	17.7%
	5	17.3%	4.6%	27.9%	16.2%	3.6%
	6	39.7%	0.0%	25.7%	33.5%	0.0%
	7	8.1%	0.0%	6.2%	10.0%	0.0%
Income	1	0.0%	47.7%	12.5%	0.0%	24.4%
	2	12.2%	16.7%	3.2%	5.6%	26.3%
	3	0.0%	11.0%	3.2%	1.8%	26.6%
	4	21.9%	6.2%	18.0%	12.3%	14.0%
	5	15.6%	5.1%	16.9%	16.7%	4.3%
	6	0.0%	3.4%	13.0%	19.2%	4.4%
	7	50.3%	10.0%	33.2%	44.4%	0.0%

Exhibit 9. List of respondents that belong to our Target segment

Subject	Class 1	Class 2	Class 3	Class 4	Class 5
2EQ3FK1	0.0%	0.0%	0.0%	100.0%	0.0%
2ER4GNH	0.0%	0.0%	0.0%	100.0%	0.0%
3GT6KX6	0.0%	0.0%	0.0%	100.0%	0.0%
4JXCRY5	0.0%	0.0%	0.0%	100.0%	0.0%
5MKU5FP	0.0%	0.0%	0.0%	100.0%	0.0%
6N4L2GL	0.0%	0.0%	0.0%	100.0%	0.0%
BXJ6BFK	0.0%	0.0%	0.0%	100.0%	0.0%
C0NAP4I	0.0%	0.0%	0.0%	100.0%	0.0%
H80RPIA	0.0%	0.0%	0.0%	100.0%	0.0%
JC6Z3RF	0.0%	0.0%	0.0%	100.0%	0.0%
JD60U1R	0.0%	0.0%	0.0%	100.0%	0.0%
LGC7DIM	0.0%	0.0%	0.0%	100.0%	0.0%
MJGEBE0	0.0%	0.0%	0.0%	100.0%	0.0%
OMLKEXH	0.0%	0.0%	0.0%	100.0%	0.0%
ONMEB85	0.0%	0.0%	0.0%	100.0%	0.0%
QSTGNU0	0.0%	0.0%	0.0%	100.0%	0.0%
UY2EKRX	0.0%	0.0%	0.0%	100.0%	0.0%
W3AHNR4	0.0%	0.0%	0.0%	100.0%	0.0%
Y70SJB2	0.0%	0.0%	0.0%	100.0%	0.0%
BY4XQIB	0.0%	0.0%	0.0%	100.0%	0.0%
7Q8QI2M	0.0%	0.0%	0.0%	100.0%	0.0%
V28EI2N	0.0%	0.0%	0.0%	100.0%	0.0%
PPOOBMY	0.0%	0.0%	0.0%	100.0%	0.0%
8RATBJ0	0.0%	0.0%	0.0%	100.0%	0.0%
IC93XSM	0.0%	0.0%	0.0%	100.0%	0.0%
SVYMC2S	0.0%	0.0%	0.0%	100.0%	0.0%
Z8HR092	0.0%	0.0%	0.0%	100.0%	0.0%
8Q6BGMR	0.0%	0.0%	0.0%	100.0%	0.0%
E3T3PAW	0.0%	0.0%	0.0%	100.0%	0.0%
MIFC8Q9	0.0%	0.0%	0.0%	100.0%	0.0%
X4CKAMX	0.0%	0.0%	0.0%	100.0%	0.0%
X5DL6N5	0.0%	0.0%	0.0%	100.0%	0.0%
TY2CR5K	0.0%	0.0%	0.0%	100.0%	0.0%
IB3LT08	0.0%	0.0%	0.0%	100.0%	0.0%
0B048CG	0.0%	0.0%	0.0%	100.0%	0.0%
QSTUYL8	0.0%	0.0%	0.0%	100.0%	0.0%
QQQQRAK	0.0%	0.0%	0.0%	100.0%	0.0%
FUEYI2N	0.0%	0.1%	0.0%	99.9%	0.0%
8SBH6UJ	0.1%	0.0%	0.0%	99.9%	0.0%
H91SK02	0.1%	0.0%	0.0%	99.9%	0.0%
L28FLSY	0.1%	0.0%	0.0%	99.9%	0.0%
9TCWA74	0.0%	0.1%	0.0%	99.9%	0.0%
AUFZWJ6	0.1%	0.0%	0.0%	99.9%	0.0%
Y7P2EQ2	0.1%	0.0%	0.0%	99.9%	0.0%
4KZE2J0	0.2%	0.0%	0.0%	99.8%	0.0%
JD70UYB	0.2%	0.0%	0.0%	99.8%	0.0%
E2RG4TJ	0.0%	0.0%	0.2%	99.8%	0.0%
Z8IR1Y6	0.0%	0.2%	0.0%	99.8%	0.0%
7OP1DP1	0.2%	0.0%	0.0%	99.8%	0.0%
IB4XQVQ	0.0%	0.3%	0.0%	99.7%	0.0%
F5R3GS5	0.0%	0.0%	0.3%	99.7%	0.0%
PONNL5Q	0.3%	0.0%	0.0%	99.7%	0.0%
AIXBP4I	0.0%	0.3%	0.0%	99.7%	0.0%
OMLAO2G	0.0%	0.3%	0.0%	99.6%	0.0%
2FSYKC4	0.1%	0.3%	0.0%	99.6%	0.0%
IB3WDP0	0.1%	0.3%	0.0%	99.6%	0.0%
LGXNE4V	0.0%	0.5%	0.0%	99.4%	0.0%
KE8WYZ1	0.7%	0.0%	0.0%	99.3%	0.0%
X3SH6WL	0.8%	0.0%	0.0%	99.2%	0.0%
ZAKP7P7	0.8%	0.0%	0.0%	99.2%	0.0%
Z8IS1LK	0.0%	0.8%	0.0%	99.2%	0.0%
UZDKS08	0.9%	0.0%	0.0%	99.1%	0.0%
PPOOWCS	1.0%	0.2%	0.0%	98.8%	0.0%
RTVXFDB	0.0%	1.3%	0.0%	98.7%	0.0%
IB4GECA	1.4%	0.0%	0.0%	98.6%	0.0%
QRSTG0J	1.4%	0.0%	0.0%	98.6%	0.0%
V18EAEI	1.0%	0.5%	0.0%	98.5%	0.0%
NKV8M0E	1.6%	0.0%	0.0%	98.4%	0.0%
5L1GB96	0.0%	1.7%	0.0%	98.3%	0.0%
CBLW7IS	0.0%	0.0%	1.6%	98.2%	0.2%
X5DLT9U	1.8%	0.0%	0.0%	98.2%	0.0%
8Q9951Y	1.2%	0.0%	1.0%	97.9%	0.0%
D1PYI2M	0.0%	0.0%	0.1%	97.7%	2.2%
G7YGMTZ	2.4%	0.0%	0.0%	97.6%	0.0%
TXRF4SG	0.0%	2.4%	0.0%	97.6%	0.0%
PQQD1PD	2.9%	0.0%	0.0%	97.1%	0.0%
UY37C35	0.0%	3.1%	0.0%	96.9%	0.0%
JD711IZ	0.0%	4.6%	0.0%	95.3%	0.0%
2YL7TG2	5.2%	0.0%	0.0%	94.8%	0.0%
NLIYRLE	6.0%	0.0%	0.0%	94.0%	0.0%
0BMX8P8	6.1%	0.0%	0.0%	93.9%	0.0%
NMKIGOC	0.0%	6.6%	0.0%	93.4%	0.0%
1CNZA3Z	8.6%	0.0%	0.0%	91.4%	0.0%
6M71VQK	0.0%	8.9%	0.0%	91.1%	0.0%
AVH2N8K	0.0%	9.3%	0.0%	90.7%	0.0%
3HF0L6R	2.7%	0.0%	7.4%	89.9%	0.0%
RSUCQ5J	11.8%	0.1%	0.0%	88.2%	0.0%
5K0S1BL	14.1%	0.0%	0.0%	85.9%	0.0%
1CO0BNF	11.8%	3.2%	0.0%	85.0%	0.0%
9UE0L6R	0.1%	15.2%	0.0%	84.7%	0.0%
X4BJ4SH	16.8%	0.0%	0.0%	83.2%	0.0%
W3AHNCY	25.0%	0.0%	0.0%	75.0%	0.0%

Exhibit 10: Preferred Grocery Store for Target Segment respondents

Type of Store Preferred	% of Respondents	# of Respondents
Natural/ Organic Food Store	25%	24
Chain Super-Market	55%	53
Mass-Merchandiser	8%	8
Local Grocery Store	9%	9
Others	2%	2

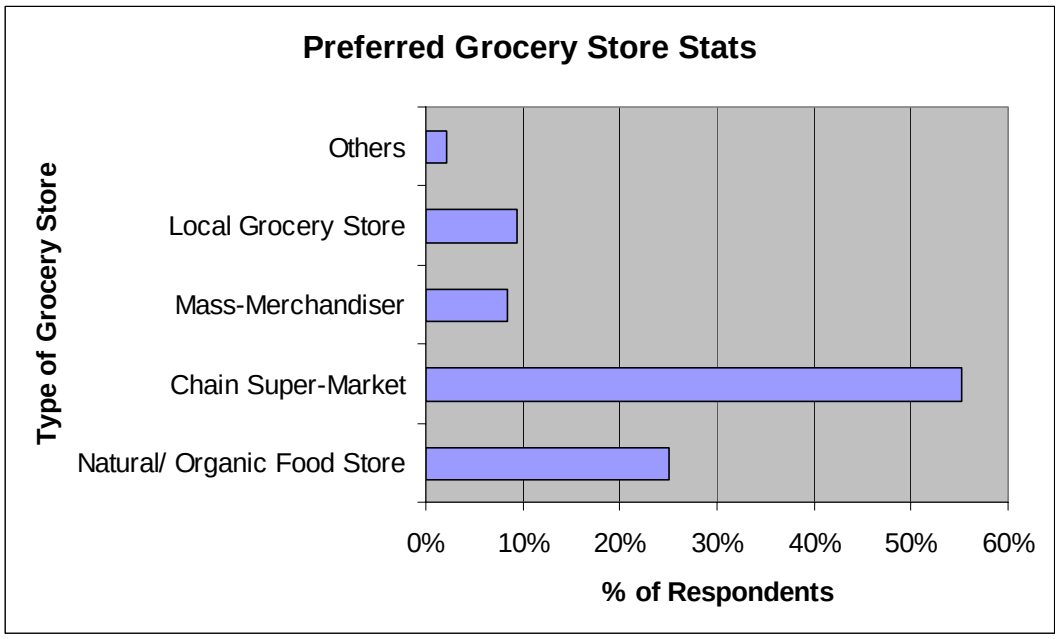

Exhibit 11. Grocery Shopping Frequency among Target Segment respondents

Shopping Frequency (# of times in last 2 weeks)		
Shopping Frequency	% of Respondents	# of Respondents
0 Times	1%	1
1 Time	21%	19
2-3 Times	52%	48
4-5 Times	20%	18
More than 5 Times	7%	6

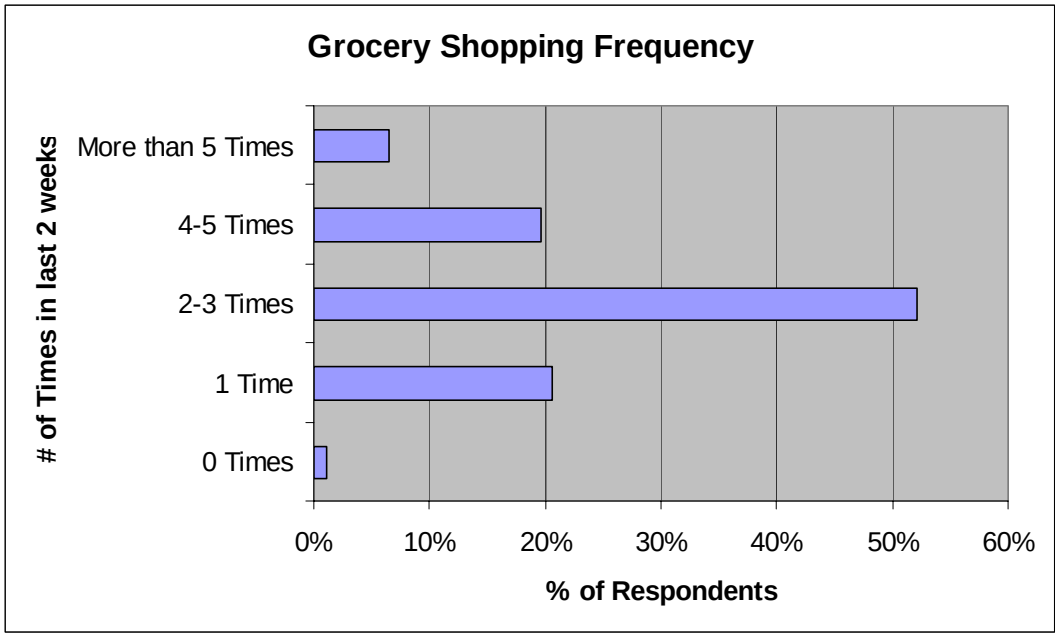

Exhibit 12. Political Affiliation of Target Segment respondents

Political Affliliation	% of Respondents	# of Respondents
Democrat	58%	52
Republican	7%	6
Independent	27%	24
Other	9%	8

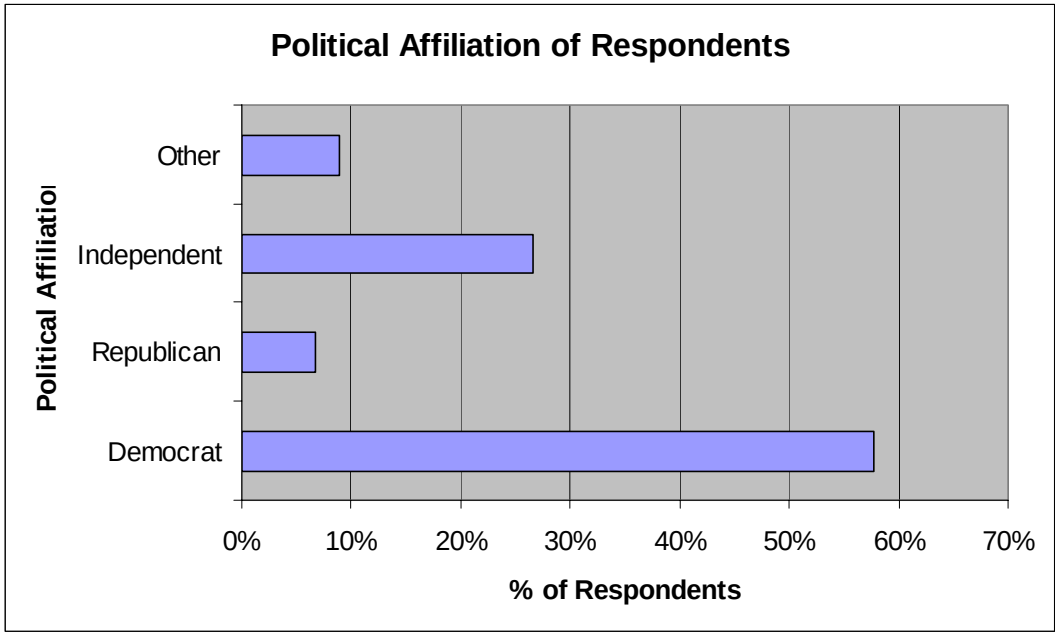

Exhibit 13. Educational Background distribution of Target Segment respondents

Educational Background	% of Respondents	# of Respondents
Some High School	0%	0
Completed High School	0%	0
Some College	5%	5
Complete College	8%	7
Some Graduate School	14%	13
Complete Graduate School	71%	66
Other	2%	2

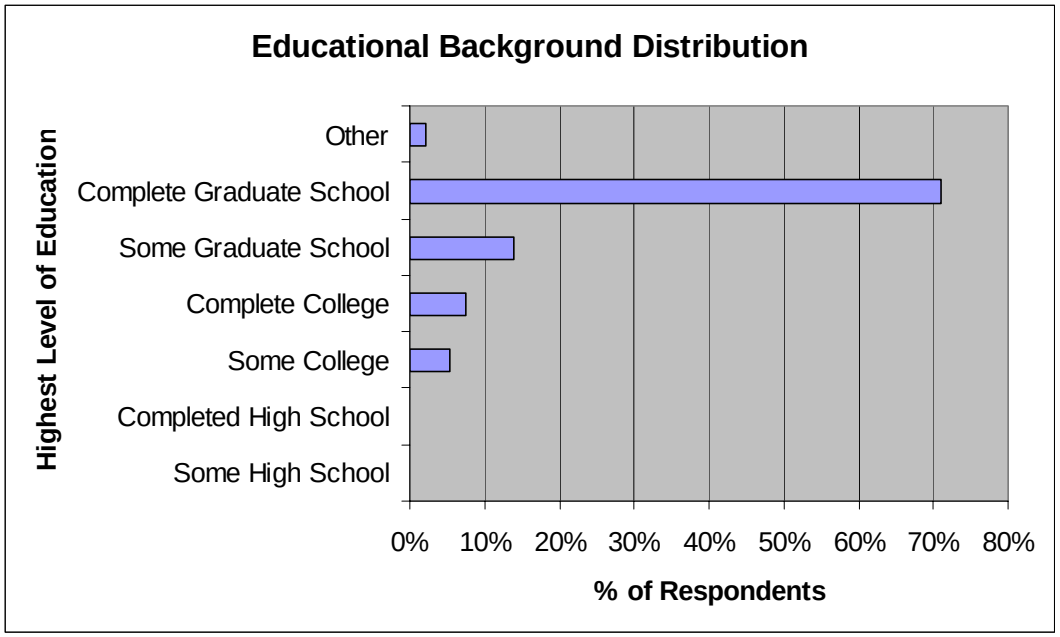

Exhibit 14. Prices are not correlated

Correlation coefficients between prices

Prices of	Coffee	T-Shirt	Shampoo	Detergent	Fruit Juice	Household Cleaner
Coffee	1					
T-shirt	0.091808789	1				
Shampoo	0.287426355	0.249025453	1			
Detergent	0.485037447	0.091451809	0.413219319	1		
Fruit Juice	0.263782022	0.146445759	0.246991222	0.251636572	1	
Household Cleaner	0.286371016	0.2819482	0.300354185	0.314835353	0.502009355	1

Subject	**Coffee**	**T-Shirt**	**Shampoo**	**Detergent**	**Fruit Juice**	**Household Cleaner**
5K0S1BL	6.99	20	5	6	1.5	2.5
0B048CG	8.5	29	3.95	5	1.25	4.95
0BMX8P8	5	15	2	5	3	3
1CNZA3Z	7	18	3	8	1	4
1CO0BNF	7	19.99	5	6.99	2.39	1.39
2EQ3FK1	6.5	15	8	7	3	4.5
2ER4GNH	11	20	10	7	3	5
2FSYKC4	8.5	15	5.5	8.5	1.99	2.99
2YL7TG2	10.5	19	10	10	1	2
3GT6KX6	6	20	2	8	2	3
3HF0L6R	5.5	15	5.4	4.5	2	2.5
4JXCRY5	7.99	16.5	8.6	6	2.37	3.19
4KZE2J0	7	15	4	6	2	4
5L1GB96	8	15	4	7.49	2.95	4.95
5MKU5FP	10	25	8	7	1.75	3.89
6M71VQK	15	17	5	6.75	1.25	3.5
6N4L2GL	8	15	1	4	1	2
7OP1DP1	5	15	1	4	2	2
7Q8QI2M	9	18	3	6	1	3
8Q6BGMR	11	15	6	10	3	4
8Q9951Y	7.5	20	8.5	5.75	1.5	4.5
BXJ6BFK	6	20	5	8	2	3
BY4XQIB	7	20	10	10	2	3
C0NAP4I	6	15	6	6	1	4
CBLW7IS	9	16	8	7	1.95	3.5
8RATBJ0	12	25	6	9	3	5
8SBH6UJ	6.95	28	7	8	3	5
9TCWA74	6.75	29.95	2	6.5	2	4
9UE0L6R	8	20	7.5	6.99	1.5	3.99
AIXBP4I	8	20	4	6	1	2
AUFZWJ6	10	40	7	7	2.5	5
AVH2N8K	9.5	22	6	7.5	1.49	3
D1PYI2M	9.99	19.99	2	8.99	1	3.5
E2RG4TJ	7.99	18	3	8.002	2.5	5.99
E3T3PAW	5	18	4	8	3	3
F5R3GS5	8	20	5	7	3	4
FUEYI2N	15	16	10	10	3	4
G7YGMTZ	12	20	5	8	3	3
H80RPIA	7.5	20	10	7.95	1.79	3.95
H91SK02	8	20	6	7	2	3
IB3LT08	9	39	8	6	3	3
IB3WDP0	5.99	19.99	6.99	8.99	1.97	2.97
IB4GECA	10	15	5	6	1	4
IB4XQVQ	6.5	15	2.5	5	1.89	2.99
IC93XSM	5	20	3.99	4.99	1.99	2.99
JC6Z3RF	9	15	3	6	4	4
JD60U1R	7.5	20	4	9	1.5	2.5
JD70UYB	12.99	15	5	8	2.5	4

(continued)

Subject	Coffee	T-Shirt	Shampoo	Detergent	Fruit Juice	Household Cleaner
JD711IZ	6.5	20	3.5	6	1.2	3
KE8WYZ1	5	15	5	5	1.5	4
L28FLSY	6.5	15	5	8	1.5	3
LGC7DIM	7	25	7	5	2	4
LGXNE4V	8.99	18	6	7	1.25	2
MIFC8Q9	8	15	1.5	6	1.25	1.99
MJGEBE0	7.5	22	8	7	2.5	3.98
NKV8M0E	12	20	4	7	1	3
NLIYRLE	12	16	8	8	4	7
NMKIGOC	8	35	5	6	2.25	4
OMLAO2G	6.99	15.99	2.49	6.99	1.39	2.99
OMLKEXH	6	16	7	6	2	2
ONMEB85	7.99	29.95	4.99	4.99	2.49	3.49
PONNL5Q	11.99	19.99	4.99	9.99	1.99	2.49
PPOOBMY	10	15	8	10	3	3
PPOOWCS	7	15	6.6	7.5	1	3
PQQD1PD	5	15	1	4	1	1
QQQQRAK	6	15	4	6	1	1
QRSTG0J	5	19	3.5	4.5	1.25	2.5
QSTGNU0	11	28	6	10	3	6
QSTUYL8	11.39	29.99	5.99	8.99	2.49	3.99
RSUCQ5J	8	15	3	8	2	3
RTVXFDB	10.95	15	4.95	8	3	3
SVYMC2S	8	25	4	7	2.5	3.5
TXRF4SG	10	18	3.5	9	1.25	2.5
TY2CR5K	7	25	5	9	2	4
UY2EKRX	8	20	5	6	3	4
UY37C35	8.99	19.99	6.99	8.99	1.5	3.99
UZDKS08	5.5	17.5	3.75	5.5	1.25	3.2
V18EAEI	8	18.5	6.95	5	1.69	3.79
V28EI2N	5.98	18	4	10	2.29	5.95
W3AHNCY	12	25	9	10	5	6
W3AHNR4	6	30	10	8	1.5	2
X3SH6WL	7	20	7	8	3	5
X4BJ4SH	12	20	8	10	1	4
X4CKAMX	8.99	21	6	7.5	2.99	2.99
X5DL6N5	8	25	8	10	1.5	5
X5DLT9U	7.95	24.99	8.95	8	1.49	3.99
Y70SJB2	5.49	25	3.99	6.99	1.29	3.89
Y7P2EQ2	10	24	5	8	1.5	3
Z8HR092	6	20	8	8	1.5	3
Z8IR1Y6	5.99	28	7.5	6.5	2.25	5
Z8IS1LK	7	20	3	5	1.5	3
ZAKP7P7	6	17	6	5	1.5	2.5

Exhibit 15. Correlations between non-price related answers

Legend:
high correlation
medium correlation
low correlation
very low correlation

Ordered by strength of correlation: *Only correlations greater than 0.22 are displayed*			**Comments**
Familiarity Household Cleaner	Familiarity Detergent	0.77	Awareness of household cleaner and detergent
Fctr Socl Respn	Fctr Env Frndl	0.48	Expected
Influenced by Colleagues	Influenced by Friends	0.46	Expected
Familiarity Household Cleaner	Familiarity Fruit Juice	0.46	Awareness of household cleaner and fruit juice
Familiarity Detergent	Familiarity Coffee	0.45	Awareness of detergent and coffee
Familiarity Shampoo	Familiarity T-Shirt	0.45	Awareness of shampoo and T-shirt
Influenced by Friends	Influenced by Other Family Members	0.44	Influence of friends and that of other family members
Familiarity Household Cleaner	Familiarity Shampoo	0.42	Awareness of household cleaner and shampoo
Familiarity Detergent	Familiarity Shampoo	0.40	Awareness of detergent and shampoo
Fctr Qlty	Fctr PrdAvl	0.38	
Fctr Pckg Siz	Fctr Price	0.37	
Your Gendr	Prim Shpr	-0.36	
Your Age Rng	Influenced by Friends	0.36	
Familiarity Household Cleaner	Familiarity Coffee	0.35	
Fctr PrdAvl	Fctr Price	0.34	
Fctr Wher Md	Fctr Socl Respn	0.33	
Familiarity Household Cleaner	Familiarity T-Shirt	0.33	
Your Ann Incm	Your Age Rng	0.31	
Your # in HH	Familiarity Coffee	0.31	
Familiarity Detergent	Familiarity T-Shirt	0.31	
Familiarity Detergent	Influenced by Spouse & SO	-0.30	
Your Edcn	Your Age Rng	0.30	Weak correlations
Your # in HH	Familiarity Household Cleaner	0.29	
Your # in HH	Familiarity Detergent	0.28	
Who Infl 6	Prim Shpr	0.28	
Your Marital Sts	Fctr Price	-0.28	
Familiarity T-Shirt	DyBrth	0.28	
Your Gendr	Influenced by Spouse & SO	0.27	
Familiarity Shampoo	Familiarity Coffee	0.26	
Your Ann Incm	Prim Shpr	0.25	
Familiarity T-Shirt	Fctr Wher Md	-0.24	
Familiarity Detergent	Prim Shpr	0.24	
Your # in HH	Prim Shpr	0.24	
Your Gendr	Familiarity Detergent	-0.23	
Your Edcn	Familiarity Shampoo	0.23	
Fctr Pckg Siz	Fctr PrdAvl	0.23	
Fctr Brnd	Fctr PrdAvl	0.23	
Fctr Pckg Siz	Wch Store	0.23	
Fctr Brnd	Fctr Env Frndl	-0.23	
Your Edcn	Fctr Wher Md	-0.23	
Your Ann Incm	Fctr Brnd	0.22	
Your Marital Sts	Tims Shpd	0.22	

(Exhibit 15 – continued)

Legend:

high number of and strong correlation
medium number of and strong correlation
low number of and strong correlation
very low number of and strong correlation

# of correl.	**Ordered by number of correlations & strength of correlation:** *Only correlations greater than 0.22 are displayed*			**Comments**
8	Familiarity Detergent	Familiarity Household Cleaner	0.77	detergent
	Familiarity Detergent	Familiarity Coffee	0.45	
	Familiarity Detergent	Familiarity Shampoo	0.40	
	Familiarity Detergent	Familiarity T-Shirt	0.31	
	Familiarity Detergent	Influenced by Spouse & SO	-0.30	
	Familiarity Detergent	Your # in HH	0.28	
	Familiarity Detergent	Prim Shpr	0.24	
	Familiarity Detergent	Your Gendr	-0.23	
6	Familiarity Household Cleaner	Familiarity Detergent	0.77	household cleaner
	Familiarity Household Cleaner	Familiarity Fruit Juice	0.46	
	Familiarity Household Cleaner	Familiarity Shampoo	0.42	
	Familiarity Household Cleaner	Familiarity Coffee	0.35	
	Familiarity Household Cleaner	Familiarity T-Shirt	0.33	
	Familiarity Household Cleaner	Your # in HH	0.29	
5	Familiarity Shampoo	Familiarity T-Shirt	0.45	shampoo
	Familiarity Shampoo	Familiarity Household Cleaner	0.42	
	Familiarity Shampoo	Familiarity Detergent	0.40	
	Familiarity Shampoo	Familiarity Coffee	0.26	
	Familiarity Shampoo	Your Edcn	0.23	
4	Your # in HH	Familiarity Coffee	0.31	
	Your # in HH	Familiarity Household Cleaner	0.29	
	Your # in HH	Familiarity Detergent	0.28	
	Your # in HH	Prim Shpr	0.24	
4	Familiarity T-Shirt	Familiarity Household Cleaner	0.33	
	Familiarity T-Shirt	Familiarity Detergent	0.31	
	Familiarity T-Shirt	DyBrth	0.28	
	Familiarity T-Shirt	Fctr Wher Md	-0.24	
3	Your Gendr	Prim Shpr	-0.36	
	Your Gendr	Influenced by Spouse & SO	0.27	
	Your Gendr	Familiarity Detergent	-0.23	
3	Fctr Pckg Siz	Fctr Price	0.37	
	Fctr Pckg Siz	Fctr PrdAvl	0.23	
	Fctr Pckg Siz	Wch Store	0.23	
3	Your Ann Incm	Your Age Rng	0.31	
	Your Ann Incm	Prim Shpr	0.25	
	Your Ann Incm	Fctr Brnd	0.22	

(Exhibit 15 – continued)

# of correl.	**Ordered by number of correlations & strength of correlation:** *Only correlations greater than 0.22 are displayed*			**Comments**
3	Your Edcn	Your Age Rng	0.30	
	Your Edcn	Familiarity Shampoo	0.23	
	Your Edcn	Fctr Wher Md	-0.23	
3	Fctr Brnd	Fctr PrdAvl	0.23	
	Fctr Brnd	Fctr Env Frndl	-0.23	
	Fctr Brnd	Your Ann Incm	0.22	
3	Influenced by Friends	Influenced by Colleagues	0.46	
	Influenced by Friends	Influenced by Other Family Members	0.44	
	Influenced by Friends	Your Age Rng	0.36	
2	Your Marital Sts	Fctr Price	-0.28	
	Your Marital Sts	Tims Shpd	0.22	
2	Fctr Socl Respn	Fctr Env Frndl	0.48	
	Fctr Socl Respn	Fctr Wher Md	0.33	
1	Influenced by Colleagues	Influenced by Friends	0.46	
1	Fctr Qlty	Fctr PrdAvl	0.38	
1	Your Age Rng	Influenced by Friends	0.36	
1	Fctr PrdAvl	Fctr Price	0.34	
1	Fctr Wher Md	Fctr Socl Respn	0.33	
1	Influenced by none	Prim Shpr	0.28	