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FACTORS INFLUENCING PURCHASING DECISION PROCESS
OF LOW-CARBOHYDRATE PRODUCTS

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Business Administration

by
Warintra Triyangkulsri

December 2005

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December 2005

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ABSTRACT

A growing number of diet trends are spreading across the nation in an effort to improve health and lose weight such as the Atkins diet and the South Beach diet. Low-fat and low-carbohydrate diets are the most popular and in the last two years, the number of low-carbohydrate products available in stores has sharply increased. Consequently, the word "carb" is used extensively in food packaging; however, many low-carbohydrate products are expensive and tasteless. Hence, the purpose of this study was to determine attitudes toward low-carbohydrate diets among consumers and the attributes that influence their purchase decision. Results showed that consumers trusted low-fat diets more than low-carbohydrate ones regarding achieving weight loss and improved health. Further, price and taste of low-carb products were the most problematic factors that affected consumers' purchase decision. Findings suggest that suppliers and manufacturers of diet foods should focus on low-fat attributes in package labeling instead of low-carb. However, findings also suggest that since diabetics must follow low-carbohydrate

diets that medical institutions consider distributing
such products as well as grocery chains.

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DEDICATION

To Triyangkulsri family

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CHAPTER ONE

BACKGROUND

Introduction

"Low-fat" and "non-fat" foods are positioned to appeal to the weight and health conscious consumers (UC Berkeley Wellness Letter, 2004). Although Americans have substantially reduced their fat intake, the obesity epidemic persists (Daniels, 2003). About 64 percent of Americans are overweight (Current Events, 2004), and obesity is fast becoming a national health crisis (Kadlec et al., 2004). In fact, diabetes is the seventh leading cause of preventable death in the United States. Bowden (2004) found that people on low-carbohydrate diets experience increased glucose control, reduced insulin resistance, weight loss, lowered triglycerides and improved cholesterol. It is clear that a focus on low carbohydrates is needed today (Woodruff, 2004).

Of the carbohydrate-oriented diet books, the most successful one is Dr. Atkins' New Diet Revolution (Atkins, 1998). Atkins recommends restricting intake of carbohydrates to less than 20 grams a day (Atkins, 1998). However, low-carb diets have recently been regarded as a

fad (Astrup, Thomas, & Harper, 2004), yet the trend is still going strong (Woodruff, 2004). Low-carbohydrate diets such as Atkins, South Beach, The Zone and other protein-packed eating regimens are running their course, as did the low-fat diets of the 1980s (Kadlec et al., 2004).

Today, 24 million Americans are cutting out carbohydrates, and another 44 million may try a low-carb diet in the next two years (Current Events, 2004). Also, according to Opinion Dynamics Corp, about 70 million Americans limit their carbohydrate intake without actually dieting (Kadlec et al., 2004). Suppliers and manufacturers of diet foods have distributed more than 1,500 low-carb diet products since 2002, with the average carb-conscious shopper spending \$85 dollars a month on specialty foods (Current Events, 2004). Moreover, salad orders at U.S. fast food restaurants rose 12 percent from 2002 to 2003 and low-carb-related sales from such consumables as Michelob Ultra beer and Atkins-endorsed products hit \$30 billion in 2004 (Kadlec et al., 2004). According to the bread industry's research, 40 percent of consumers have cut down on bread in 2002 compared to 2001

(Cole, 2004). Undoubtedly, America officially became the "Low-Carb Nation" with its craze for low-carbohydrate foods (UC Berkeley Wellness Letter, 2004).

Problem Statement

"Carb" has become the popular abbreviation for carbohydrates and this term is being used extensively in product packaging (Addis, 2004). Today, a large percentage of research and development dollars in the packaged-foods industry is being directed to low-carb products to meet the market's insatiable appetite (Addis, 2004). More than 1,000 trademarks are associated with products that used the word "carb" to capture market sales (Addis, 2004). In addition, many foods have been developed for consumers on the Atkins diet and endorsed by the company to influence brand choice.

People love brands on an emotional level, but if branded low-carb versions of tasty and value-priced foods can be developed, they will capture consumers' attention, as did Coca Cola when it introduced C2 (Beirne, 2004). However, reduced carbohydrate products are not known for their flavor. For instance, low-carb beer had very little taste (Tufts University Health & Nutrition Letter, 2003).

Also, many low-carbohydrate products were expensive, costing two or three times more than the regular versions (Topkis, 2003). Despite these setbacks, consumers are "carb aware" and retailers report that low-carb products are not selling as anticipated (Thompson, 2004). However, the low-carb craze is forcing major food marketers to rethink their strategies, because consumers will not pay a premium for brands that support their dietary requirements if the food does not taste good (Thompson, 2004).

Purpose of the Project

The purpose of the study is to identify the attributes that influence the purchase decision of low-carbohydrate foods. Understanding consumers' attitudes toward "low-carb diet products" will help manufacturers to build low-carb products' sales and improve their marketing strategies. The objectives of this project are to:

1. Determine the extent of low-carbohydrate purchases among consumers and the level of preference among consumers when purchasing low-carb products.

2. Determine attitudes toward low-carbohydrate diets among consumers.
3. Determine the attributes that influence purchase decisions of low-carbohydrate products.
4. Determine the demographic and psychographic characteristics of consumers that purchase low-carbohydrate foods.
5. Determine strategies to improve marketing of low-carbohydrate products among manufacturers.

Limitations of the Project

1. The study focuses on the low-carbohydrate diet trend in the United States.
2. The study population is limited to students enrolled in a Southwestern University and residents in a city in the Southwest.

Definition of Terms

- "Carbohydrates" are the body's first source of energy (Julie, 2004).
- "Complex carbohydrates" are found in whole-grain breads, beans, fruits and

vegetables. They contain fiber and break down slowly when digested, creating a feeling of fullness (Kadlec et al., 2004).

- "Simple carbohydrates" are found in white rice, potatoes, most commercial breads and processed crackers, cookies, chips, soda and candy bars. They break down more quickly than complex carbohydrates. They produce a sugar overload and do not provide the same amount of nutrition or fiber of complex carbohydrates (Kadlec et al., 2004).
- The Atkins diet limits "carbohydrate craving," resets "the body's metabolism," and induces "fat loss" by eliminating carbohydrate-containing foods, regardless of whether they are high in fiber, contain whole grains, or have vitamins and minerals. As a result, the diet recommends limiting breads, pasta, rice, potatoes, fruit, and starchy vegetables (corn, peas), and sweets (Atkins, 2002).

- "Low-carb" is used in this project to refer to reduced carbohydrate or that lowers blood glucose levels. Fewer carbohydrates in the diet allow the body to minimize the amount of blood glucose that is stored as body fat (Richard, 2004).
- "Net carbs" are often used to refer only to those carbs that raise blood-sugar levels (Reyes, 2004).

The Food and Drug Administration (FDA) has not stipulated the minimum number of carbs a product must have to qualify as "low carbohydrate" (Julie, 2004). Therefore, there is no standard of how many carbs per serving are considered "low carb" or how many servings a day, as shown on the food label, should be low carb. Although the term has not been legally defined, it appears on many food labels and in supermarkets (LaMar et al., 2004).

Organization of the Project

This study is divided into five chapters. Chapter One provides an introduction to the problem, purpose of the project, objectives, limitations and definitions of

terms. Chapter Two is a review of relevant literature. Chapter Three outlines the methodology used in the study. Chapter Four provides the results, and Chapter Five presents conclusions and implications of the study's findings. Project references follow Chapter Five. An Appendix for the project consists of a Questionnaire and data collected.

CHAPTER TWO

REVIEW OF THE LITERATURE

Introduction

Today, there is a wealth of information on consumer wellness concerns and on the factors that influence the purchasing of low-carbohydrate diets (Time & Trends, 2004). Consumer demand for healthier life and nutritional benefits is growing, and "low carbohydrate" is part of the overall wellness theme. The low-carb craze was spearheaded by the publicity about the Atkins Diet, the national obesity crisis, low-carb product launches and fast food restaurants' quick response offerings (Time & Trends, 2004). Many companies are spending millions of dollars on advertising, packaging and store atmosphere to push low-carbohydrate products (Hawkins, Best, & Coney, 2001).

Factors Influencing the Purchase Decision Process

Buyers are motivated to purchase food on the basis of their nutritional or health needs, taste, convenience, and brand (Alvensleben, 1997). Furthermore, customers' age and income are among the factors that influence their

choice. Finally, product-related variables such as packaging and price affect consumer demand for low-carbohydrate foods (Alvensleben, 1997).

The IRI's Consumer Network (2004) found that "taste" is a key factor in food and beverage selection - based upon Retail Satisfaction Survey of more than 5,000 consumers. The results showed that 46 percent of consumers rarely sacrificed good taste for health benefits, even though staying healthy or having a healthy life influences consumer purchase behavior and attitudes among low-carb product categories (Time & Trends, 2004).

Kirsten Aune, a marketing manager at General Mills said that many consumers, especially women, wanted products that were both tasty and easy to enjoy (Reyes, 2004). Many women complained about the bland taste of low-carbohydrate products. For instance, low-carb beer tasted watery (Tufts University Health & Nutrition Letter, 2003). The low-carb craze is forcing major food marketers to rethink their assumption that consumers will pay a premium for poor-tasting products (Thompson, 2004).

Source: Hawkins, Best, & Coney, 2001

Figure 1. Situational Influence

Marketing Activities Influencing the Purchase Decision Process of Low-Carbohydrate Consumption

Media attention, low-carb product launches and fast food restaurants' quick response product offerings have attracted attention to reduced carbohydrate consumption; just as fat and cholesterol information did in the early 1990's (Time & Trends, 2004). Ads about the benefits of a low-carbohydrate diet are on restaurant menus, in supermarkets, bookstores, and even in bakeries (Yager, 2004).

In grocery stores, niche firms have so far been available for most of the low-carb breakfast bars and other packaged foods. The Albertson's chain offered more than 100 low-carbohydrate products (Kadlec et al., 2004). Also, people in the Northeast have become acquainted with a new line of Weston Food's Arnold bread that is lower in carbohydrates (Gloede, 2004).

According to a study by Technomic Incorporated, despite considerable media attention, carbohydrate consumption was less of a concern than calories. A study of over 1,600 respondents found that 61 percent of them were concerned about calories and about 55 percent of respondents were concerned about carbohydrates (Banking Business, 2004).

Some restaurants serve Atkins-approved menus and burgers without the buns to minimize carbohydrate consumption (Reyes, 2004). In the study of over 1,600 respondents, 66 percent of people on low-carb diets said that it was very important or somewhat important for a food to have specific low-carb labeling on the package. Moreover, 38 percent of the respondents reported that it was very important or somewhat important to know that a

restaurant advertised low-carb offerings before choosing a restaurant (Banking Business, 2004).

A large percentage of R&D dollars in the packaged-foods business is going into low-carbohydrate products. There have been over 1,000 trademarks carrying with the word "carb" to increase sales (Addis, 2004). People might purchase new items because they are attracted to the products, and because they think that messages on food labels are controlled by the government. The FDA, however, has not defined "low carb." Consequently, consumers assume that low-carb labeling must be true even though the claims are ambiguous (UC Berkeley Wellness Letter, 2004).

However, many low-carbohydrate products cost two or three times the price of a fully loaded version (Topkis, 2003). Even though consumers are "carb aware", retailers report that low-carb foods are unpopular because consumers think that they are overpriced. This unpopularity is driving down the premium prices of low-carb products (Thompson, 2004). Consumers are not willing to pay a lot of extra money for fewer calories or

carbohydrates (Tufts University Health & Nutrition Letter, 2003).

Opinion Dynamics Corporation (2005) found that consumers are more concerned with fat content than with any other nutritional claim. At the moment, it is not at all clear that there will be any one claim that can support the "low-carb craze" of 2005 (ODC) (<http://www.opiniondynamics.com/lowcarb.html>, 2004). However, about 64 percent of Americans are overweight (Current Events, 2004), and about 40 percent of Americans have tried to lose weight by using some form of a low-carbohydrate diet (Ebenkamp, 2004). According to the A.C. Nielsen poll, a low-carbohydrate dieter lost weight, felt great by embracing the low-carb lifestyle and avoiding sugary and starchy foods (Raloff, 2004). Low-carb diets are not only used by people who wish to lose weight, but also by those who desired to live healthier lives. There is a focus on choosing the right carb. In doing so, the entire diet becomes healthy (Rotella & Zaleski, 2003). According to the New Product Development (2004), people who are eating fewer carbohydrates already had a higher incidence of health

problems such as diabetes, high blood pressure and high cholesterol (Banking business, 2004).

Buyer Characteristics Influencing Low-Carbohydrate Food Purchase

Attitudes toward a product are not only determined by the consumers' motives and the consumption experience, but also by consumers' perceptions of the product (Alvensleben, 1997). Perception is most likely to be distorted. The perceived world and the real world do not correspond with each other and attitudes regarding the perceived properties of the product are linked variables (Kotler & Armstrong, 1993). The more positive or negative a consumer's attitude towards a product, the more drawn the consumer is to the positive (or negative) properties of the brand -- leading to a stabilization of the attitude towards the product (Kotler & Armstrong, 1993). Some people believed that low-carb diets were not healthy, or that they might not help them control their weight, according to Lee Smith president, InsightEspress (DeNoon, 2004).

Tsao (2004) noted that learning what was healthy and what was not is a continuing process. In addition,

organic foods to quick meals will always compete for consumers' attention (Tsao, 2004). InsightExpress (2004) noted that more than half of American consumers who had tried a low-carbohydrate diet preferred it instead to counting calories (Food navigator, 2004).

Also, without motivation there is no attitude toward a product. The more positive the attitude towards the product, the higher the probability of purchase (Kotler & Armstrong, 1993). Buyers' food purchase decision process is influenced by nutritional needs/ health, enjoyment (taste), convenience and prestige (brand), as shown in Figure 2.

According to Alvensleben, the major motives for food demand are nutritional needs/ health, enjoyment (taste), convenience and prestige (brand). Moreover, the age of the consumer may influence motives.

In high-income societies, the food energy surplus has led to a widespread desire to be slim and control calorie intake while eating nutrition-rich foods (Alvensleben, 1997). Older consumers develop health problems that make them more health conscious and interested in nutritious foods (Alvensleben, 1997).

Source: Alvensleben, 1997

Figure 2. Variable Influencing Food Demands

Opinion Dynamics Corporation (ODC) (2005) found that consumers between the ages of 56 and 64 were the most likely to say they were on a low-carbohydrate diet. Likewise, income influences consumers' product and brand preferences (Foxall, 1988).

The literature shows that living healthy is the top concern of people and that a low-carbohydrate diet is especially popular among consumers age 55 years and older. Manufacturers and retailers of low-carbohydrate products have to study, analyze, and plan all the details of the low-carb consumer behaviors because so many factors influence their purchase decision.

The "taste" of low-carbohydrate products plays a major role in purchase decision and can compete with "brand" because people believe in brand, but they also love good taste, so they can compete. In addition, "price" is a critical factor in making a purchase.

CHAPTER THREE

METHODOLOGY

Population and Sample

The sample was chosen among students enrolled in a Southwestern University and those living in a Southwestern city. Shoppers exiting a local supermarket and students at the local university were selected at random. Children and pregnant women were not included in this study.

Instruments

A self-administered questionnaire was developed to ascertain the objectives set fourth. To determine attitudes toward low-carbohydrate diets among the sample, questions included whether they had tried a low-carb product and whether they thought low-carb diets were good for health. They were also asked how they learned about low-carb products (the choices were from literature reviewed). Statements were measured via Yes-or-No and multiple-choice responses. Moreover, the researcher used the instrument developed by Opinion Dynamic Corporation (ODC) (<http://www.opiniondynamics.com/lowcarb.html>, 2004)

to measure how much consumers believed they would lose weight by following a low-fat or a low-carb diet. The instrument was measured on a five point Likert scale, ranging from strongly agree (1) to strongly disagree (5).

To determine that the attributes that influence the purchase of low-carbohydrate products, statements were taken from the ODC (2004). Statements were measured via modified five point Likert scaled ranging from high preference (1) to low preference (5) and included low-carb labeling in addition to factors used by Alvensleben (1997) that included price, taste, calories and carb count. In order to determine the most important attributes, respondents were asked to consider their decision process for samples of four low-carbohydrate products: Michelob Ultra, Mueller's Reduced-Carb Spaghetti, Tropicana Light Healthy, and Klondike Carbsmart Sandwiches. This instrument, previously used by Rawe (2004) used a Likert scale ranging from strongly agree (1) to strongly disagree (5) and asked respondents to evaluate the brands' price, taste, calories, and carb count.

To determine the extent of low-carbohydrate purchases among consumers, respondents were asked to describe their low-carb buying experiences and preference choices when purchasing such products over a selected period. The first three questions established if they were dieters, why they were on a diet, and how often they consumed or purchased diet products. The questions were measured using a Yes-or-No response.

To determine the media mix and, ultimately, marketing strategies to promote low-carbohydrate foods among manufacturers, respondents were asked where they turned for information. The five media were radio, television, newspapers, magazines and the internet. Also, respondents were asked about how often they would buy diet products from restaurants, websites, and supermarkets. Questions were measured using a modified Likert scaled ranging from very often (1) to never (5). To determine the demographic and psychographic characteristics of consumers, items mentioned in the literature reviewed included, income, education, and ethnicity.

Data Analysis Procedures

After collecting the data, the data were put into the Statistical Program of Social Science (SPSS). Frequencies, means, and cross tabulations were compiled to complete the data analysis.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

The data were analyzed using the Statistical Package for Social Sciences (SPSS).

Demographics of Respondents

Two hundred and thirty-one of the 250 respondents (92%) returned the completed survey. The demographic characteristics of respondents are given in Table 1. Of the respondents, 59.3% were female and the majority (42.9%) ranged from 26 to 35 years of age. Further, approximately 41% of the respondents had some college education. Most respondents were White (31.6%) and 25.1% were Asian. Moreover, the majority (23.4%) of respondents reported a household income from \$25,000 to \$49,999 and 83.1% did not have a medical condition. Only 39 of respondents (16.9%) reported suffering from diabetes and obesity. Eleven of the respondents had diabetes and nine classified themselves as obese (see Table 1).

Table 1. Demographic Characteristics of the Respondents

N = 231

Variable		
Gender		
Male	94	40.7
Female	137	59.3
Age		
19 years and under	5	2.2
20-25	83	35.9
26-35	99	42.9
36-45	18	7.8
46 years and over	26	11.3
Education		
High School	10	4.3
College	95	41.1
Associate degree	31	13.4
Bachelor's	59	15.6
Ethnic Background		
No Response	5	2.2
White	73	31.6
Pacific Islander	5	2.2
Black	32	13.9
Native American	4	1.7
Hispanic	35	13.9
Multi Racial	19	8.2
Asian	58	25.1
Household Income		
No Response	3	1.3
Less than \$9,999	41	17.7
\$10,000 - \$14,999	17	7.4
\$15,000 - \$24,999	36	15.6
\$25,000 - \$49,999	54	23.4
\$50,000 - \$74,999	40	17.3
\$75,000 - \$99,999	20	8.7
\$100,000 and over	20	8.7
Medical Condition		
Diabetes	11	4.8
Obesity	9	3.9
Diabetes and Obesity	3	1.3
Other	16	6.9
Don't have Medical Condition	192	83.1

Study Objectives

Objective 1

More than half (53%) of respondents reported that they were on a diet (see Table 2). Most of them were female (75.2%) which was over twice the number of males (24.8%) (see Table 3).

Table 2. The Number of Dieters among Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	109	47.2	47.2	47.2
	No	122	52.8	52.8	100.0
	Total	231	100.0	100.0	

Table 3. Crosstabulation of Dieters by Gender

			What is your gender?		Total
			Male	Female	
Are you a dieter?	Yes	Count	27	82	109
		% within Are you a dieter?	24.8%	75.2%	100.0%
	No	Count	67	55	122
		% within Are you a dieter?	54.9%	45.1%	100.0%
Total		Count	94	137	231
		% within Are you a dieter?	40.7%	59.3%	100.0%

Tables 4 and 5 revealed the reason(s) respondents were on a diet. "Good Health" was reported by 54 of 109 respondents who were on a diet (49.5%) (see Table 4). However, those who chose "Weight Loss" as their reason as shown in Table 5, were 75.2% of the respondents.

Table 4. On Diet for Good Health

			Why are you on diet? Because of good health		Total
			No Response	Good Health	
Are you a dieter?	Yes	Count	55	54	109
		% within Are you a dieter?	50.5%	49.5%	100.0%
	No	Count	122		122
		% within Are you a dieter?	100.0%		100.0%
Total	Count		177	54	231
	% within Are you a dieter?		76.6%	23.4%	100.0%

Table 5. On Diet for Weight Loss

			Why are you on diet? Because of weight loss		Total
			No Response	Weight Loss	
Are you a dieter?	Yes	Count	27	82	109
		% within Are you a dieter?	24.8%	75.2%	100.0%
	No	Count	122		122
		% within Are you a dieter?	100.0%		100.0%
Total	Count		149	82	231
	% within Are you a dieter?		64.5%	35.5%	100.0%

Table 6 showed the frequency that respondents consumed diet products. Of those, the majority (46.8%) consumed them from two to four times per week.

Table 6. Cross-tabulation of Dieters by Frequency of Consuming Diet Products

			How often do you eat diet products?						Total
			No Response	More than 5 times a week	2 to 4 times a week	Once a week	Never	Other	
Are you a dieter?	Yes	Count		26	51	19	7	6	109
		% within Are you a dieter?		23.9%	46.8%	17.4%	6.4%	5.5%	100.0%
	No	Count	122						122
		% within Are you a dieter?	100.0%						100.0%
Total		Count	122	26	51	19	7	6	231
		% within Are you a dieter?	52.8%	11.3%	22.1%	8.2%	3.0%	2.6%	100.0%

Regarding the attributes of low-carbohydrate diets (question 15) respondents preferred "Taste" (mean = 1.61) and "Price" (mean = 1.93) However, respondents were neutral (mean = 2.63 and 2.67 respectively) regarding the terms "Nutrient/Health claims" and "Well-known Brand". "Great design of the package" (mean = 3.62) did not have an impact on purchase. Further, respondents had very low preference for use of "Carb" on packaging (mean = 4.37) (see Table 7).

Table 7. Summary of Preference with Low Carbohydrate Products

	N	Mean	Std. Deviation
"Taste" is almost or the same as regular products	231	1.61	.915
"Nutrient/Health claim" is shown on the label	231	2.63	1.315
"Brand" is well-known	231	2.67	1.069
The word "Carb" is added on the package	231	4.37	1.030
"Package" is interesting/attractive	231	3.62	.979
"Price" is not much more expensive than regular products	231	1.93	1.029
Valid N (listwise)	231		

Objective 2

One reason that "low-fat" was placed on the market was to appeal to weight-conscious consumers. This was also true for "low-carb" products. Table 8 showed that a low-fat diet was a strong motive (mean = 1.76) for dieters and almost as a strong (mean = 2.27) by non-dieters. Overall, more respondents agreed that a low-fat diet was more effective than a low-carb diet in losing weight.

Table 8. Mean Scores of Agreement of Diet Products

Are you a dieter?		Please indicate how much you would agree if you want to lose weight with Low Fat Diets	Please indicate how much you would agree if you want to lose weight with Low Carb Diets
Yes	Mean	1.79	2.67
	N	109	109
	Std. Deviation	.891	1.291
No	Mean	2.27	3.31
	N	122	122
	Std. Deviation	1.114	1.143
Total	Mean	2.03	3.01
	N	231	231
	Std. Deviation	1.044	1.255

Aside from helping to control weight, low-carb diets were advertised as conducive to healthy lifestyle (Rotella & Zaleski, 2003). However, Table 9 showed that 75.8% of respondents who had never tried a low-carbohydrate diet did not agree that it was good for individuals' health and 41.7% of respondents who had tried low carbohydrates did not think the diet contributed to good health. Nevertheless, respondents who had already tried low-carb products were more likely to purchase a low-carb product than were those who had not.

Table 9. Crosstabulation of Respondents' Agreement with Low Carbohydrate Products

			Do you think that low carb diets are good for your health?		Total
			Yes	No	
Have you tried a low carb product?	Yes	Count % within Have you tried a low carb product?	77 58.3%	55 41.7%	132 100.0%
	No	Count % within Have you tried a low carb product?	24 24.2%	75 75.8%	99 100.0%
Total		Count % within Have you tried a low carb product?	101 43.7%	130 56.3%	231 100.0%

Interestingly, 50% of respondents who were on a diet also disagreed with the statement that low-carb diets were good for health (see Table 10).

Table 10. Low Carbohydrate Agreement among Dieters

			Do you think that low carb diets are good for your health?		Total
			Yes	No	
Are you a dieter?	Yes	Count	60	49	109
		% within Are you a dieter?	55.0%	45.0%	100.0%
	No	Count	41	81	122
		% within Are you a dieter?	33.6%	66.4%	100.0%
Total	Count		101	130	231
	% within Are you a dieter?		43.7%	56.3%	100.0%

Table 11 identifies the catalysts that make people want to try low-carbohydrate diets. The majority of respondents, both dieters and not, believed the medical professionals' opinion of low-carb products. Overall, most respondents (49.4%) would be convinced to try or purchase low-carb products upon the recommendation of medical professionals. Nutrient/low-carb claims and advertising (20.8% and 19.9% respectively) were the next two catalysts that affected respondents concerning health. Other catalysts included friends, families and themselves (7.4%). Of those who believed in the advice of medical professionals, 47.7% were dieters, while 50.8% were non-dieters. The next two catalysts among dieters

were advertising and nutrient/low-carb claims (22% and 19.3% respectively). The second catalyst among non-dieters was nutrient/low-carb claims (22.1%) followed by advertising (18%).

Table 11. Summary of Catalysts Motivating Respondents

		What would be the most common catalyst that makes you try low carb products?					Total
		Medical Professionals	Store Environment	Nutrient/ Low Carb Claims	Advertising	Other	
Are you a dieter?	Yes Count	52	5	21	24	7	109
	% within Are you a dieter?	47.7%	23.9%	46.8%	17.4%	5.5%	100.0%
	No Count	62	1	27	22	10	122
	% within Are you a dieter?	50.8%	.8%	22.1%	18.0%	8.2%	100.0%
Total	Count	114	6	48	46	17	231
	% within Are you a dieter?	49.4%	2.6%	20.8%	19.9%	7.4%	100.0%

Objective 3

According to respondents' concerns for low-carb messages on either the product label or on a restaurant advertisement, Table 12 showed that dieters (mean = 2.94) had more concern than non-dieters (mean = 3.93) for low-carbohydrate information on the label. However, the degree of concern for low-carb offerings by restaurants

by both groups was only moderate to less important. Both dieters and non-dieters agreed less on the offerings (mean = 3.93 and 4.27 respectively).

Table 12. Importance of Low-Carb Product Labeling/Offerings to Respondents

Are you a dieter?		How important is it to you in purchasing food to eat at home that the food has low carb information on the label?	How important is it to you in choosing a restaurant specifically advertises low carb offerings?
Yes	Mean	2.94	3.93
	N	109	109
	Std. Deviation	1.442	1.152
No	Mean	3.78	4.27
	N	122	122
	Std. Deviation	1.237	1.045
Total	Mean	3.38	4.11
	N	231	231
	Std. Deviation	1.399	1.108

The next four tables reflect respondents' opinions regarding four different low-carbohydrate products' price, taste, calories, carb count and carb labeling.

Low-carbohydrate beer, Michelob Ultra, is offered in the market survey (Table 13). To dieters, "calories" (mean = 1.82) were of concern, however, to non-dieters, "taste" (mean = 1.69) was their primary consideration. To dieters, paying a bit more for the low carbs than the

regular products was more acceptable but not so for non-dieters. Another factor considered by dieters was "carb count" (mean = 3.04). The addition of the word "Ultra" would not influence the purchase either among dieters (mean = 4.20) or non-dieters (mean = 4.19).

Table 13. Mean Scores of Product Factors of Low Carbohydrate Beer

		Between regular Michelob beer and low-carb Michelob beer,				
		I always look for "Carb Count"	I would concern about "Calories"	I don't feel good about the "Price" of the low-carb product	I don't think I'd like the "Taste" of the low-carb beer	the word "Ultra" added makes me more interested to buy it
Are you a dieter?	Yes Mean	3.04	1.82	3.36	2.70	4.20
	N	109	109	109	109	109
	Std. Deviation	1.154	1.020	1.175	1.244	1.200
No	Mean	3.93	3.04	2.23	1.69	4.19
	N	122	122	122	122	122
	Std. Deviation	1.038	1.124	1.082	1.005	1.123
Total	Mean	3.51	2.46	2.79	2.16	4.19
	N	231	231	231	231	231
	Std. Deviation	1.179	1.236	1.258	1.230	1.158

Table 14 refers to low-carbohydrate and regular spaghetti. "Calories" was the first consideration among dieters. However, non-dieters considered "taste" (mean = 1.56) and "price" (mean = 1.54) first. Non-dieters were not satisfied with the price difference

between the regular (\$0.99) and the low-carb versions (\$1.99). In turn, dieters accepted a higher price, however, they were not always likely to buy the higher-priced product (mean = 2.54). "Carb count" was always a consideration of dieters (mean = 2.88), but low consideration was given to "the word 'carb' added" (mean = 4.43). Non-dieters were not very concerned with "carb count" (mean = 3.89) and they strongly disagreed that "the word 'carb' added" was important to them (mean = 4.51).

Table 14. Mean Scores of Product Factors of Low Carbohydrate Spaghetti

		Between Mueller's reduced carb spaghetti and Mueller's regular,				
		I always look for "Carb Count"	I would concern about "Calories"	I don't feel good about the "Price" of the low-carb product	I don't think I'd like the "Taste" of the low-carb spaghetti	the word "Carb" added makes me more interested to buy it
Are you a dieter?	Yes Mean	2.88	1.99	2.54	2.45	4.43
	N	109	109	109	109	109
	Std. Deviation	1.160	.995	1.127	1.198	1.022
No	Mean	3.89	3.07	1.54	1.56	4.51
	N	122	122	122	122	122
	Std. Deviation	.997	1.030	.854	.945	.893
Total	Mean	3.41	2.56	2.01	1.98	4.47
	N	231	231	231	231	231
	Std. Deviation	1.187	1.147	1.109	1.159	.955

If the "price" of both the regular and low-carbohydrate juice were the same, both dieters and non-dieters would choose the latter. Even though the "taste" may not be as good, non-dieters would be willing to try the low-carb versions (mean = 1.72). However, "calories" was still important to dieters (mean = 1.92) (Table 15).

The addition of the word "light" had some impact on dieters (mean = 3.02), but less for non-dieters (mean = 4.08) (see Table 15).

Table 15. Mean Scores of Product Factors of Low Carbohydrate Juice

		Between Tropicana light'n healthy and Tropicana pure premium,				
		I always look for "Carb Count"	I would concern about "Calories"	I would buy low-carb product because it's the same price as the regular	I don't think I'd like the "Taste" of the low-carb juice	the word "light" added makes me more interested to buy it
Are you a dieter?	Yes Mean	2.97	1.92	1.98	2.61	3.02
	N	109	109	109	109	109
	Std. Deviation	1.190	.983	1.326	1.312	1.527
No	Mean	3.89	2.93	2.39	1.72	4.08
	N	122	122	122	122	122
	Std. Deviation	.969	1.137	1.016	1.023	1.080
Total	Mean	3.46	2.45	2.19	2.17	3.58
	N	231	231	231	231	231
	Std. Deviation	1.171	1.178	1.187	1.247	1.412

Low-carbohydrate sandwiches that were priced the same as regular sandwiches were of interest to dieters and non-dieters (mean = 2.57). Even though non-dieters thought that they would not like the "taste" as much (mean = 1.58), they would be interested in trying low-carbohydrate products. Dieters still agreed strongly in the importance of "Calories" (mean = 1.79) in choosing a product. Both dieters (mean = 4.29) and non-dieters (mean = 4.48) alike disliked the addition of the word "carbsmart" (see Table 16).

Table 16. Mean Scores of Product Factors of Low Carbohydrate Sandwiches

		Between Klondike carbsmart sandwiches and Klondike big bear sandwiches,				
		I always look for "Carb Count"	I would concern about "Calories"	I would buy low-carb product because it's the same price as the regular	I don't think I'd like the "Taste" of the low-carb sandwiches	the word "CarbSmart" added makes me more interested to buy it
Are you a dieter?	Yes Mean	2.75	1.79	2.32	2.34	4.29
	N	109	108	109	109	109
	Std. Deviation	1.115	.967	1.268	1.211	1.100
No	Mean	3.78	2.94	2.57	1.58	4.48
	N	122	122	122	122	122
	Std. Deviation	1.033	1.130	1.226	.978	.884
Total	Mean	3.29	2.40	2.45	1.94	4.39
	N	231	230	231	231	231
	Std. Deviation	1.187	1.203	1.250	1.156	.994

Objective 4

Regarding age range (see Table 17), the majority of respondents on diets (88.5%) were 46 years of age or higher. In turn, the majority of non-dieters were 35 years of age and younger.

Table 17. Age Range of Respondents

		Age Range					Total
		19 years and under	20-25	26-35	36-45	46 years and over	
Are you a dieter?.	Yes Count		33	40	13	23	109
	% within Age Range		39.8%	40.4%	72.2%	88.5%	100.0%
	No Count	5	50	59	5	3	122
	% within Age Range	100.0%	60.2%	59.6%	27.8%	11.5%	100.0%
Total	Count	5	86	99	18	26	231
	% within Age Range	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Households with an income range of \$50,000-\$74,999 comprised 26.6% of the dieters. The majority (20.5%) of non-dieters earned less than \$9,999 annually (Table 18).

Table 18. Household Income among Respondents

			Household Income								Total
			No Response	Less than \$9,999	\$10,000 - \$14,999	\$15,000 - \$24,999	\$25,000 - \$49,999	\$50,000 - \$74,999	\$75,000 - \$99,999	\$100,000 and over	
Are you a dieter?	Yes	Count	2	16	6	16	20	29	10	10	109
		% within dieter	1.8%	14.7%	5.5%	14.7%	18.3%	26.6%	9.2%	9.2%	100.0%
	No	Count	1	25	11	20	23	22	10	10	122
		% within dieter	.8%	20.5%	9.0%	16.4%	18.9%	18.0%	8.2%	8.2%	100.0%
Total		Count	3	41	17	36	43	54	20	20	231
		% within dieter	1.3%	17.7%	7.4%	15.6%	18.6%	22.1%	8.7%	8.7%	100.0%

Table 19 showed the importance of low-carb labeling to consumers in each age range. The majority (53.8%) of people 46 years and above thought that it was important.

Table 19. Summary of Importance of Low Carbohydrate Labeling with Age

			How important is it to you in purchasing food to eat at home that the food has low carb information on the label?					Total
			Most important	Important	Moderate	Less important	Least important	
Which age range contains your age?	19 and under	Count % within Which age range contains your age?		2 40.0%	1 20.0%	2 40.0%		5 100.0%
	20-25	Count % within Which age range contains your age?	4 4.8%	11 13.3%	20 24.1%	12 14.5%	36 43.4%	83 100.0%
	26-35	Count % within Which age range contains your age?	6 6.1%	24 24.2%	15 15.2%	19 19.2%	35 35.4%	99 100.0%
	36-45	Count % within Which age range contains your age?	7 38.9%	2 11.1%	4 22.2%	1 5.6%	4 22.2%	18 100.0%
	46 years and over	Count % within Which age range contains your age?	6 23.1%	14 53.8%	4 15.4%	1 3.8%	1 3.8%	26 100.0%
Total		Count % within Which age range contains your age?	23 10.0%	53 22.9%	44 19.0%	35 15.2%	76 32.9%	231 100.0%

Of respondents who had medical conditions such as diabetes (Table 20), over half (52.2%) of those were

mostly concerned about low-carb information on the label, and approximately 35% of them thought that low-carb labeling was important (see Table 20).

Many of respondents who were obese (40%) felt neutral about choosing a product with low-carb labeling. However, up to 33% of them thought that it was important to have low-carb labeling when buying food to eat at home (Table 21).

Table 20. Importance of Low Carbohydrate Labeling to Respondents with Diabetes

		How important is it to you in purchasing food to eat at home that the food has low carb information on the label?					Total
		Most important	Important	Moderate	Less important	Least important	
You have diabetes	Yes Count	11	45	41	35	76	208
	% within You have diabetes	5.3	21.6%	19.7%	16.8%	36.5%	100.0%
	No Count	12	8	3			23
	% within You have diabetes	52.2%	34.8%	13.0%			100.0%
Total	Count	23	53	44	35	76	231
	% within You have diabetes	10.0%	22.9%	19.0%	15.2%	32.9%	100.0%

Table 21. Importance of Low Carbohydrate Labeling to Respondents Suffering from Obesity

		How important is it to you in purchasing food to eat at home that the food has low carb information on the label?					Total
		Most important	Important	Moderate	Less important	Least important	
You have obesity	Yes Count	21	48	38	33	76	216
	% within You have obesity	9.7%	22.2%	17.6%	15.3%	35.2%	100.0%
	No Count	2	5	6	2		15
	% within You have obesity	13.3%	33.3%	40.0%	13.3%		100.0%
Total	Count	23	53	44	35	76	231
	% within You have obesity	10.0%	22.9%	19.0%	15.2%	32.9%	100.0%

Tables 22 and 23 showed that the majority (69.6%) of diabetic respondents were age 46 years and over (see Table 22). Also, the majority (60%) of those who considered themselves obese were age 46 years and over (see Table 23).

Table 22. Crosstabulation of Respondents with Diabetes by Age

		Which range contains your age?					Total
		19 years and under	20-25	26-35	36-45	46 years and over	
You have obesity	Yes Count	5	82	99	12	10	208
	% within You have obesity	2.4%	39.4%	47.6%	5.8%	4.8%	100.0%
	No Count		1		6	16	23
	% within You have obesity		4.3%		26.1%	69.6%	100.0%
Total	Count	5	83	99	18	26	231
	% within You have obesity	2.2%	35.9%	42.9%	7.8%	11.3%	100.0%

Table 23. Crosstabulation of Respondents with Obesity by Age

		Which range contains your age?					Total	
		19 years and under	20-25	26-35	36-45	46 years and over		
You have obesity	Yes	Count	5	82	96	16	17	216
		% within You have obesity	2.3%	38.0%	44.4%	7.4%	7.9%	100.0%
	No	Count		1	3	2	9	15
		% within You have obesity		6.7%	20.0%	13.3%	60.0%	100.0%
Total		Count	5	83	99	18	26	231
		% within You have obesity	2.2%	35.9%	42.9%	7.8%	11.3%	100.0%

Objective 5

The majority (27.7%) of respondents often bought diet products from supermarkets (see Table 24).

Thirty-three percent of dieters chose medical care centers to buy diet products (Table 25). Nevertheless, they were only occasionally concerned about eating diet products in restaurants (Table 26). However, buying diet products from internet/websites was rarely chosen by respondents (Table 27).

Table 24. Frequency of Low Carbohydrate Purchase at Supermarkets among Respondents

		How often do you buy diet products from supermarkets?					Total
		Very Often	Often	Occasionally	Almost Never	Never	
Are you a dieter?	Yes Count	30	38	29	6	6	109
	% within Are you a dieter?	27.5%	34.9%	26.6%	5.5%	5.5%	100.0%
	No Count	4	26	36	23	33	122
	% within Are you a dieter?	3.3%	21.3%	29.5%	18.9%	27.0%	100.0%
Total	Count	34	64	65	29	39	231
	% within Are you a dieter?	14.7%	27.7%	28.1%	12.6%	16.9%	100.0%

Table 25. Frequency of Low Carbohydrate Purchase from
Medical Care Centers among Respondents

		How often do you buy diet products from medical care centers?					Total
		Very Often	Often	Occasionally	Almost Never	Never	
Are you a dieter?	Yes Count	36	16	34	14	9	109
	% within Are you a dieter?	33.3%	14.7%	31.2%	12.8%	8.3%	100.0%
	No Count		18	36	28	40	122
	% within Are you a dieter?		14.8%	29.5%	23.0%	32.8%	100.0%
Total	Count	36	34	70	42	49	231
	% within Are you a dieter?	15.6%	14.7%	30.3%	18.2%	21.2%	100.0%

Table 26. Frequency of Low Carbohydrate Purchase at
Restaurants among Respondents

		How often do you eat diet products from restaurants?					Total
		Very Often	Often	Occasionally	Almost Never	Never	
Are you a dieter?	Yes Count	22	28	34	16	9	109
	% within Are you a dieter?	20.2%	25.7%	31.2%	14.7%	8.3%	100.0%
	No Count	16	20	15	25	46	122
	% within Are you a dieter?	13.1%	16.4%	12.3%	20.5%	37.7%	100.0%
Total	Count	38	48	49	41	55	231
	% within Are you a dieter?	16.5%	20.8%	21.2%	17.7%	23.8%	100.0%

Table 27. Frequency of Low Carbohydrate Purchase from Websites among Respondents

			How often do you eat diet products from websites?				Total
			Often	Occasionally	Almost Never	Never	
Are you a dieter?	Yes	Count	1	7	36	65	109
		% within Are you a dieter?	.9%	6.4%	33.0%	59.6%	100.0%
	No	Count	2	9	32	79	122
		% within Are you a dieter?	1.6%	7.4%	26.2%	64.8%	100.0%
Total		Count	3	16	68	144	231
		% within Are you a dieter?	1.3%	6.9%	29.4%	62.3%	100.0%

Regarding use of media (Table 28), all respondents (100%) aged 19 years and under listened to the radio. In fact, more than 70% of respondents in each age range listened to the radio. Further, the majority of respondents aged 36 to 45 (83.3%), watched television, as did those 20 to 35 (68.7%).

More than 65% of respondents aged 46 years and over read the newspaper; 50 percent of those between 20 and 45 years of age read the newspaper. Moreover, the majority (61%) of respondents between the ages of 26 and 35 often read magazines. Finally, internet use was popular with respondents ages 20-25 (73.5%). Only about 11 percent of

those 46 and over used the internet for research (see Table 28).

Table 28. Summary of Respondents' Use of Media Summarized by Age

Which age range contains your age?		I usually				
		listen to radio station	watch television	read newspaper	read magazine	Use internet
19 years and under	Mean	1.00	.80	.00	.20	.40
	N	5	5	5	5	5
	Std. Deviation	.000	.447	.000	.447	.548
20-25	Mean	.80	.69	.57	.49	.73
	N	83	83	83	83	83
	Std. Deviation	.406	.467	.499	.503	.444
26-35	Mean	.76	.69	.54	.62	.68
	N	99	99	99	99	99
	Std. Deviation	.431	.466	.501	.489	.470
36-45	Mean	.72	.83	.56	.62	.68
	N	18	18	18	99	99
	Std. Deviation	.461	.383	.511	.489	.470
45 years and over	Mean	.73	.15	.65	.19	.12
	N	26	26	26	26	26
	Std. Deviation	.452	.368	.485	.402	.326
Total	Mean	.77	.64	.55	.48	.61
	N	231	231	231	231	231
	Std. Deviation	.421	.481	.499	.501	.488

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

Introduction

The results from Chapter Four were summarized in Chapter Five. To gather primary data, a survey was conducted.

Conclusions and Implications

This study administered a survey designed to understand consumers' attitudes toward low-carbohydrate diet products and to identify the factors that influenced their decision to purchase low-carbohydrate food. Because of epidemic of obesity and diabetes among Americans, low-fat foods contribute to good health and weight control (UC Berkeley Wellness Letter, 2004). However, obesity and diabetes rates remain high (Daniels, 2003). As a result, people on low carbohydrates experience weight loss, lowered triglycerides and lower cholesterol (Bowden, 2004). Today, the focus is on carbohydrate reduction (Woodruff, 2004). This practice emphasized the fact that the suppliers and manufacturers of low-carb food markets should understand the demands of their consumers when it comes to low-carbohydrate foods. Today,

"carb" is widely used in product packaging to capture market sales (Addis, 2004). However, "brand," "taste" and "price" attributes are still important to consumers (Beirne, 2004). Therefore, it is necessary for food marketers to understand and meet the demand for low-carbohydrate products given these criteria.

Results showed that females seemed to be more concerned about their food consumption than males are. Most of the dieters were 46 years old and over with incomes ranging from \$50,000 - \$74,999. Moreover, people with medical conditions such as diabetes tended to pay more attention to low-carb information. Most respondents consumed diet products between two and four times per week.

Weight loss was the primary factor in respondents' consumption of diet products. However, low-fat diets were still thought to be more effective than low-carb diets in weight reduction. This finding confirms ODC's (2005) conclusion that consumers are more concerned with fat content than with any other nutritional claim. Still, fewer than 50% of respondents agreed that low-carb diets were good for health.

In general, low-carbohydrate information on both the label and on restaurant menus was important for dieters, but not for non-dieters. Most respondents preferred low-carbohydrate products that tasted as much like the original as possible. This finding is consistent with that of the IRI's Consumer Network (2001) that determined that "taste" was a key factor in food and beverage selection. "Brand recognition" was expected most from non-dieters. However, for dieters, "Brand" was less important than "low-carb claims," which refers not only to "carb count," but also to "calories," something that was very important to most dieters. Topkis (2003) found that many low-carb products were often more expensive than the original, or than other products in the same category. The findings consistently indicated that "low-price" or "equal price" of low-carb products had an impact on purchases, -especially among non-dieters who were interested in trying something different but not in paying more.

Although Addis (2004) expected that trademarks combined with the word "carb" would sell more, results indicated that "the word 'carb' on the package" had the least importance in influencing respondents' purchasing

decision. Most respondents placed little credence in the word "carb", however, the word "light" had more of an impact.

Implications of the findings suggest that medical care centers would be the best place to provide low-carbohydrate products for people who have a medical condition. For other people, supermarkets might be the best place to offer low-carbohydrate foods. Restaurant menus present the occasional opportunity to dine on low-carbohydrate products. However, websites would not be a good place to market low-carbohydrate products because people rarely buy diet products online.

It is also recommended that low-carb advertisements appear in newspapers because people age 46 years and over spend the most time reading the newspaper.

Also, radio stations, which most people listen to regularly, should have low-carb advertisements. Magazines should focus only on people age 20 to 35. Since medical professionals have a great influence upon purchases, they might want to try low-carbohydrate products. Their recommendation can help promote the sale of low-carb diets.

Results indicated that most respondents had more confidence in low-fat foods than in low-carbohydrate foods. Consequently, a further recommendation is for diet products to focus on being "low-fat" rather than the "low-carb" particularly in package labeling. This claim is supported by the findings that lower fat is better than fewer carbs for weight loss; low fat promotes better health than fewer carbs, and buyers would be more attracted to low-fat products than to products that were labeled as "low-carb."

In terms of product labeling, low-fat appeared to be the most significant influence upon weight-conscious respondents. Consequently, low-fat labeling should be emphasized more than low-carb as well as in advertisements. Having words that consumers can easily see while making a purchase can aid in a salesfactoryexperience. Further, manufacturers should research and produce tasty but reasonably-priced low-fat and low-carb products to drive sales.

However, low-carbohydrate diets were still needed among diabetic respondents (Table 20). Therefore, the niche market of low-carb products should focus on diabetics.

While most diabetics cited low carbohydrates as their primary reason to stay healthy and control weight, weight watchers trusted low-fat diets more so than low-carb ones. Medical professionals should be encouraged to endorse the health benefits of reducing carbohydrate intake for good health.

APPENDIX
QUESTIONNAIRE

Public Opinion Survey

The purpose of this survey is to learn peoples' preferences and opinions toward low carbohydrate/ carbohydrate-controlled products. Please take 7-10 minutes to complete the questionnaire. There is no right or wrong answer. Your responses will be kept confidential. Thank you very much for your help in this research effort.

Please put an X on the blank that best describes your opinion

Section 1

1) Are you a dieter?

☐ Yes ☐ No (Go to Question No.4)

2) Why are you on diet? (Check all that apply)

☐ Good Health ☐ Weight loss ☐ Other _____

3) How often do you eat diet products?

☐ more than 5 times a week ☐ 2 to 4 times a week
☐ Once a week ☐ Never
☐ Other _____

4) Please indicate how much you would agree (if you wanted to lose weight) with each of the following by checking the blank that best represents your response.

Low Fat Diets	Strongly agree ☐ : ☐ : ☐ : ☐ : ☐ Strongly disagree
Low Carb Diets	Strongly agree ☐ : ☐ : ☐ : ☐ : ☐ Strongly disagree

5) Have you tried a low-carb product?

☐ Yes ☐ No

6) Do you think that low-carb diets are good for your health?

☐ Yes ☐ No

7) What would be **the most** common catalyst that would make you try a **low-carb product**?

☐ Medical professionals ☐ Store environment
☐ Nutrient/Low Carb Claims ☐ Advertising (e.g. T.V., magazine)
☐ Other _____

8) Please indicate how often you would buy/eat diet products from each of following place by circling the number that best represents your response.

1- Very Often, 2- Often, 3- Occasionally, 4- Almost Never, 5- Never

A. Restaurants	1	2	3	4	5
B. Supermarkets	1	2	3	4	5
C. Medical Care Centers	1	2	3	4	5
D. Websites	1	2	3	4	5
E. Others _____	1	2	3	4	5

(Please specify)

9) Check the blank that best represents your response

A. How important is it to you to purchase food to eat at home than food with low-carb information on the label?	Most important ____ : ____ : ____ : ____ : ____ Least important
B. How important is it to you to choose a restaurant that specifically advertises low-carb offerings?	Most important ____ : ____ : ____ : ____ : ____ Least important

10)

MICHELOB ULTRA®	VS.	MICHELOB®
2.6 g	CARBS	13.3 g
95	CALORIES	155
\$1.75	PRICE	\$1.35
Serving size: 12 oz.		

From *above* information, between regular Michelob beer and low-carb Michelob beer (Michelob ultra), how would you respond to the following? Check the blank that best represents your response.

A. I always look at carb count	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree
B. I would be concerned about “Calories”	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree
C. I don’t feel good about the price of the low-carb product, so I wouldn’t buy it	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree
D. I don’t think I would like the “Taste” of low-carb beer	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree
E. The word “Ultra” on the product makes me more interested in buying it	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree

11)

MUELLER'S REDUCED CARB SPAGHETTI®	VS.	MUELLER'S REGULAR®
19g 200 \$1.99	CARBS CALORIES PRICE Serving size: 2 oz.	41 g 210 \$0.99

From **above** information, between Mueller’s reduced-carb spaghetti and Mueller’s regular, how would you respond to the following? Check the blank that best represents your response.

A. I always look at carb Count	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree
B. I would be concerned about “Calories”	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree
C. I don’t feel good about the price of the low-carb product, so I wouldn’t buy it	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree
D. I don’t think I would like the “Taste” of the low-carb spaghetti	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree
E. The word “Reduced carb” on the product makes me more interested to buy it	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree

12)

TROPICANA LIGHT HEALTHY®	VS.	TROPICANA PURE PREMIUM®
17 g 70 \$3.29	CARBS CALORIES PRICE Serving size: 8 oz.	26 g 110 \$3.29

From **above** information, between Tropicana light’n healthy and Tropicana pure premium, how would you respond to the following? Check the blank that best represents your response.

A. I always look at carb count	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree
B. I would be concerned about “Calories”	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree
C. I would buy the low-carb product because it’s the same price as the regular	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree
D. I don’t think I would like the “Taste” of the low-carb juice	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree
E. The word “Light” on the product makes me more interested to buy it	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree

13)

KLONDIKE CARBSMARTSANDWICHES®	VS.	KLONDIKE BIGBEAR SANDWICHES®
5 g 80 \$3.99	CARBS CALORIES PRICE Serving size: One sandwich	28 g 190 \$3.99

From *above* information, Between Klondike carb-smart sandwiches and Klondike big bear sandwiches, how would you respond to the following? Check the blank that best represents your response.

A. I always look at carb count	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree
B. I would be concerned about “Calories”	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree
C. I would buy the low-carb product because it’s the same price as the regular	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree
D. I don’t think I would like the “Taste” of the low-carb sandwiches	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree
E. The word “Carbsmart” on the product makes me more interested to buy them	Strongly Agree ____ : ____ : ____ : ____ : ____ Strongly Disagree

14) If you were to make a decision to buy a low carbohydrate product, please rate your preference for each of the following features that best represents your response.

A. Whether or not the “Taste” is almost or the same as the regular product	High preference ____ : ____ : ____ : ____ : ____ Low preference
B. Preference for “Nutrient/Health claim” on the label	High preference ____ : ____ : ____ : ____ : ____ Low preference
C. Product is made by a well-known “Brand”	High preference ____ : ____ : ____ : ____ : ____ Low preference
D. Product package contains the word “Carb”	High preference ____ : ____ : ____ : ____ : ____ Low preference
E. “Package” is great designed	High preference ____ : ____ : ____ : ____ : ____ Low preference
F. The “Price” of low-carb product the same or only a bit more expensive than the regular product	High preference ____ : ____ : ____ : ____ : ____ Low preference

15) What media do you usually use? (Please check all that apply)

- ☐ Radio Station
- ☐ Television
- ☐ Newspaper
- ☐ Magazine
- ☐ Internet

Section 2 About you!!

- 1) What is your gender?
☐ Male ☐ Female
- 2) Which age range applies to you?
☐ 19 years and under ☐ 20-25 ☐ 26-35
☐ 36-45 ☐ 46 years and over
- 3) What is your educational background?
☐ High school ☐ College
☐ Associate degree ☐ Bachelor's degree
☐ Graduate or professional degree
- 4) What is your ethnic background?
☐ White ☐ Pacific Islander
☐ Black ☐ Native American
☐ Hispanic ☐ Multi Racial
☐ Asian ☐ Other
- 5) What is your approximately total household income?
☐ Less than \$9,999 ☐ \$10,000-\$14,999
☐ \$15,000-\$24,999 ☐ \$25,000-\$49,999
☐ \$50,000-\$74,999 ☐ \$75,000-\$99,999
☐ \$100,000 and over
- 6) Do you have any medical conditions? (Check all that apply)
☐ Diabetes
☐ Obesity
☐ I don't have
☐ Other _____

<<Thank You >

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