

## FOR WHOM THE MENU INFORMS: A MARKET SEGMENTATION APPROACH TO NUTRITIONAL INFORMATION ON RESTAURANT MENUS

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*Foodservice operators are being mandated to provide nutritional information (NI) on their menus to enable diners to make informed choices. However, there is little research on who would utilize NI on menus. This study utilizes Cluster Analysis to segment and profile diners at full-service restaurants that need, and would utilize NI on menus in full-service restaurants in the USA. Cluster Analysis identified two distinct segments - Health Cognizants and Fast-Lane Foodies. The Health Cognizant segment, has positive attitudes towards NI, feels the need for NI, and would utilize it to make dining decisions. They tend to be females, those aged 35 to 65, and those belonging to the higher income and college educated strata. This segment already practices a healthy lifestyle and employs various healthful strategies while making dining decisions. The Fast-Lane Foodies are not particularly concerned about NI on menus. Implications are provided.*

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**Keywords:** *Nutritional Information; Menu Labeling; Segmentation; Attitudes; Behavioral Intentions*

JEL Classification: *L83, M1, O1*

### INTRODUCTION

Both the popular and academic media have expressed alarm and concern about increasing rates of obesity and diabetes worldwide. The foodservice industry has often been blamed for providing unhealthy menu



items that exacerbate these medical issues. The foodservice industry has rejected this charge, and has responded by emphasizing the free choice of consumers in selecting from diverse menu options. All packaged food items sold in the United States of America (USA) have been required to display Nutritional Facts Label (NFL) for more than fifteen years. Furthermore, concerns about public health have driven legislators to pass laws mandating the provision of Nutritional Information (NI) on fast-food restaurant menus in USA. These laws place a heavy burden on food-service operators by increasing the cost and complexities of operation. However, what has been missing from this debate is research on the demographic and psychographic profile of consumers who would use NI.

The questions that need to be addressed are: Whom does the menu inform? How large is the market segment of consumers that really care about NI on their menus? What is the profile of consumers that would be users or non-users of NI? How do the health and food related lifestyles of consumers impact their need for NI, and their intention to utilize NI? Given the costs and complexities associated with placing NI on menus, should restaurateurs provide NI pro-actively?

Previous studies have focused on the history of Nutritional Facts Labeling (NFL), eating out patterns of modern day Americans, the importance of NFL to consumers, and industry actions towards making NI available to consumers (Turner, 2007; Palmer and Leontos, 1995; Guthrie, Lin, and Frazao, 2002; Hamblett, 2008; Kozup, Creyer, and Burton, 2003). However, no study has examined consumers and profiled them, on the basis of their interest in utilizing NI to make informed decisions, particularly in full-service restaurants. To address this gap in the literature, this study utilizes cluster analysis to identify and profile segments that are interested in, and likely to, utilize NI in full-service restaurants. Consumers are segmented and profiled based on demographics, their attitudes towards NFL and NI, their current behaviors and habits pertaining to health and dining, and their behavioral intentions about their health and usage of NI in restaurants.

## **LITERATURE REVIEW**

### **Nutritional labeling in the restaurant industry in the USA**

A study found that, 67% of women and 49% of men wanted NI on restaurant menus. The study also found that approximately 90% of the consumers don't feel very well informed about the nutritional values of food in restaurants (Perlick, 2004). Driven by the perceived need to

provide better information to consumers, several laws concerning NI directed towards fast food and full-service restaurants have been proposed in the last few years. The primary targets of these mandates have been fast food restaurant chains. They have been required for a few years now to provide nutritional information about their menu items (Walkup, 2004). These chains are the primary target, because Americans eat 64% of their restaurant meals in fast-food chain restaurants (Mount, 2008). The recently enacted Labeling Education and Nutrition (LEAN) Act in the US Congress extends nutrition labeling laws across the USA (Carper, 2008). As a fundamental part of this act, all restaurant chains with 20 more outlets are required to list calories, trans-fat, saturated fat, and sodium at the point of purchase (Rosenbloom, 2010).

Majority of fast-food chains already have detailed nutritional information available on their websites. Increasing number of fast-food chains such as McDonald's, Burger King, Subway, etc. already display NI at the point-of-purchase. Several other full-service restaurants such as Olive Garden, Applebee's, Chili's, etc. have joined the healthy dining initiative. The initiatives undertaken by these restaurants included having, highlighting, and labeling low calorie items on their menus, reduced portion size options, etc.

### **Consumer attitudes towards nutritional facts labeling**

Americans have taken several steps towards reducing fat from food prepared at home (Putnam, 1999). Food prepared away from home is generally less healthy in comparison to the food prepared at home (Lin & Frazao, 1997). However, when dining out, the three primary diner motivations namely: convenience, attractive ambiance, and delicious food surpass the importance of healthy eating (Lin and Frazao, 1997). Furthermore, many consumers consider dining out to be an indulgence, and are not inclined to eat healthy when doing so (Putnam, 1999).

There are many determinants of nutritional behavior that need to be considered when changing nutritional and eating behavior: biological, economical, psychological, socio-cultural, home economics related, and situation-related (Gedrich, 2003). Research shows that attitudinal characteristics such as belief, and stage of change towards choosing a healthy option when eating out, had a significant relationship with the selection of a menu item. The study also found that behavioral measures, like frequency of eating low-fat and low-sugar foods were found to be significantly related to the attitude of trying to choose a healthy option when eating out (Stubenitsky, Aaron, Catt, and Mela, 1999).

Studies have found that close to three quarters of American adults use Nutritional Facts Labels (NFL) on packaged food. There seems to be a link between using food labels and eating more healthy diets. About 48% of people also were found to have changed their buying preference due to the available NI. A poll found that 71% of the Americans made changes in their food intake to eliminate fat from their diets. Research also shows that 80% of Americans want restaurants to provide NI for all their menu items to enable them to make informed choices. Furthermore, it was observed that their choices were guided by the NI available (Wootan, 2007). Another study found that providing NI increases the intent to repurchase, gives a feeling of higher quality, better satisfaction, and also leads to people making healthful choices (Conklin, Cranage, and Lambert, 2004). Consumers want to be able to access information such as the total fat content and the total carbohydrate content in their food (Mills and Thomas, 2008). Research also shows that the preference for less-healthy foods seemed to have diminished when NI was provided (Burton, Creyer, Kees and Huggins, 2006).

Studies have shown that women were significantly more likely to use information on food labels than men. Women were also observed to be more aware of the daily caloric requirements. Furthermore, 67% of participants were able to identify the number of calories they should be consuming per day. Weight status did not show any significant influence in the use of food labels (Krukowski, Harvey-Berino, Kolodinsky, Narsana, and Desisto, 2006).

## **Healthy lifestyle behaviors & habits**

Obesity is one of the primary health concerns facing the USA. In the past 30 years, the rate of obesity has increased among both adults and children. Under these circumstances, Centers for Disease Control and Prevention (CDC) has been emphasizing the importance of a healthy lifestyle in addition to healthy eating. A healthy weight cannot be achieved only through a “diet”; it has to be complemented with an overall on-going healthy lifestyle (CDC, 2008). National Institutes of Health (NIH) are also trying to reduce obesity in children by promoting an overall healthy lifestyle. This is being done through programs like We Can! which was launched in 2005 (NIH, 2007). The We Can! program emphasizes having a healthy lifestyle through increased physical activity, improved food choices, and reduced passive recreation (NIH, 2007).

The third National Health and Nutrition Examination Survey (1988-1994) studied the health related lifestyles of 16,176 adults. The study

found that approximately 7.0% of USA population is engaged in a healthy lifestyle. Females, White respondents, and those with over 13 years of education were more likely to engage in healthy lifestyles (Ford, Martine, Ford, De Proost, Will, Galuska, & Ballew, 2001). However, it was observed that the intention of leading a healthy lifestyle does not necessarily translate into concrete actions to achieve that goal. The challenge is in identifying that segment of the population which has not just the desire, but also the capacity and the willpower to do so.

### **Market segmentation in the restaurant industry**

Market Segmentation is a strategic tool that enables the understanding of distinct consumer segments to better understand consumer behavior, purchase intentions, create precise marketing strategies and support responsible marketing initiatives (Bowen, 1998; Richard & Sundaram, 1994; Swinyard & Struman, 1986). An effective market segment contains groups with similar behavior, a high group identity, and can be targeted with an effective marketing mix (Kau & Lim, 2005). Several different statistical approaches have been used to segment a market. Albebaki & Lakovidou (2011) reviewed segmentation studies in wine tourism examining and comparing the different approaches used. Josiam, Sohail & Monteiro (2007) segmented customers of Indian restaurants in Malaysia, while Reynolds & Hwang (2006) segmented American customers of Japanese restaurants in the USA.

One of the well-established market segmentation statistical approaches used to gain deeper insight into the differentiating factors between consumer segments is Cluster Analysis (Green and Krieger, 1995). The two primary methods historically used in Cluster Analysis are partitioning method and hierarchical method (Myers, 1996). However, lately the Two-Step Cluster Analysis method, which draws on the strengths of both methods, is becoming more popular. In the Two-Step Cluster Analysis, initial pre-clusters are formed by the hierarchical method, and then followed by an iterative portioning process, that classifies cases into distinct clusters formed by the hierarchical method (Arimond & Elfessi, 2001).

The cluster segmentation approach has been extensively used in the hospitality/tourism literature in several contexts. Past studies utilized the cluster approach to understand travel motivations, satisfaction, dining choices, etc. with respect to the lodging, and travel industry (Cha, McCleary, & Uysal, 1995; Gonzalez & Molina, 2009; Sirakaya, Uysal, & Yoshioka, 2003). The cluster segmentation approach has often been used

to develop consumer typologies based on demographic, lifestyle, and behavioral variables. (Oh & Jeong, 1996; Granzin & Olsen, 1997). Cluster analysis was used to segment tourists to Lake Plastiras in Greece into four segments (Kokkaili, Koutsouris, Chrysochou, 2009). A segmentation study, (Yüksel & Yüksel, 2002), done in the context of benefits sought divided diners into five segments: Value Seekers, Service Seekers, Adventurous-Food Seekers, Atmosphere Seekers, Healthy-Food Seekers. As the names suggest each of these segments gave importance to distinct factors such as value, great service, cuisine variety, and ambiance. The Healthy-Food Seekers chose to dine in a restaurant based on the variety of healthful menu choices, restaurant location, and availability of non-smoking seating areas. This segment of Healthy-Food Seekers were least concerned about price, ambiance and service quality.

Bahn and Granzin (1985) have utilized Cluster Analysis to test the merits of benefit segmentation for restaurant marketers. They found that nutritional concerns were among the benefits sought, which could affect restaurant patronage.

### **Predicting future behavior**

Research has shown that attitudes are pre-cursors of behavioral intentions. Measuring attitude towards a behavior can help predict the intention to perform that behavior (Fishbein & Ajzen, 1975). Furthermore, prediction can be improved if respondents are asked questions that pertain to immediate past behavior, as opposed to general attitudes or intentions. Research has found that future behaviors are guided by past behavior through two basic processes (Ouellette and Wood, 1998). First, that any specific behavior is repeated, because the control and initiation process for that behavior becomes automatic over a period of time, converting that behavior to habit. Second, that the past behavior frequency reflects the strength of the habit, and hence has a significant impact on future behavior (Fishbein & Ajzen, 1975; Ouellette and Wood, 1998). This is affirmed by another study, which found that repetition of any behavior leads into a habit. Such habits are then guided by an automated cognitive process, rather than elaborate decision making (Aarts, Verplanken & Knippenberg, 1998). Furthermore, behavioral measures, like frequency of eating low-fat and low-sugar foods have been found to be significantly related to the attitude towards, and intention of trying to choose a healthy option when eating out, thus confirming the importance of both attitudinal and behavioral influence on food selection (Stubenitsky, Aaron, Catt, and Mela, 1999). Hence, this study asked

respondents to report both their attitudes, and their actual past habits/behaviors in terms of food and health lifestyles.

## **NEED FOR STUDY**

Concern for public health and the perceived role of the foodservice industry in influencing food consumption is driving much of the legislative action mandating NI on menus. In the rationale for the introduction of the LEAN act, the co-sponsor, Senator Lisa Murkowski stated (Carper, 2008):

“The LEAN Act will facilitate a national debate on the important issue of menu labeling and will raise a broader discussion on the importance of healthy lifestyle choices”

With growing emphasis being laid on a healthy lifestyle rather than just healthy eating, it is important to understand the link between current health-related behaviors/habits/lifestyles and intention/usage of NI in restaurants. The foodservice industry could benefit from a better understanding of the market segmentation profile of health-conscious customers. Such understanding could lead to changes in menus and marketing strategies that are better targeted, leading to higher customer service levels. Diners would also benefit from the increased availability of healthy options on restaurant menus.

## **OBJECTIVES OF THE STUDY**

The purpose of this research was to identify the need for, and intended usage of nutritional labeling on menus in full-service restaurants on the basis of the consumers attitudes and current food/health related habits and lifestyles. The objectives of the research were:

- **Objective 1:** To determine the size of the market segment of full-service dining consumers that need and intend to use nutritional information (NI) in making their dining decisions.
- **Objective 2:** To segment consumers on the basis of their need for and intended use of the NI in full-service restaurants.
- **Objective 3:** To understand the various significant demographic, attitudinal, and behavioral differences between the identified market segments.

## **METHODOLOGY**

### **Questionnaire**

The survey was administered at a full-service student-run restaurant on the campus of a university in the southwest of the USA. Respondents were asked about their demographic profile and their attitudes towards NFL on packaged foods and NI on restaurant menus. They were also asked about their current food and health related lifestyle and habits, to better predict behavioral intentions. The bases of these behavioral questions were the tips given to consumers for healthy eating when dining out, in a report by medical professionals. The report suggest that consumers can eat healthy when dining out by reducing portion sizes, substituting with healthy items, avoiding fried foods, ordering salad dressing on the side, etc. (UW Health, 2004).

Reliability and content validity were confirmed through a pilot study with 82 respondents. Revisions were made to the survey as a result of feedback from the pilot test. The final survey comprised of the following five parts:

- (1) Demographic data.
- (2) Attitudes towards NFL on packaged foods, and NI on restaurant menus, using a seven-point Likert scale.
- (3) Current food/health related lifestyles and habits, using a seven-point Likert scale.
- (4) Behavioral intentions (using a seven-point Likert scale) towards:
  - a. Improving personal health and healthy dining
  - b. Using NI to make dining decisions in full service restaurants
  - c. Eating out more often if NI was made available on menus
- (5) Type of NI which would be important in a menu, using a seven-point Likert scale.

### **Data collection**

This survey used a convenience sample of guests of the restaurant. Over a period of one month, 500 surveys were collected. For Cluster Analysis, since missing values lead to excluded cases, 347 surveys, complete in all regards, were utilized for this study. Individual responses were anonymous. Respondents were not compensated. SPSS software was used for data analysis.

## FINDINGS AND DISCUSSION

### Demographics

The demographic profile of an average respondent was: female, in the 45-64 age group, of White/Anglo ethnicity, well educated (over 90% were college educated), with a relatively high household income. The detailed demographic information is presented in Table 1.

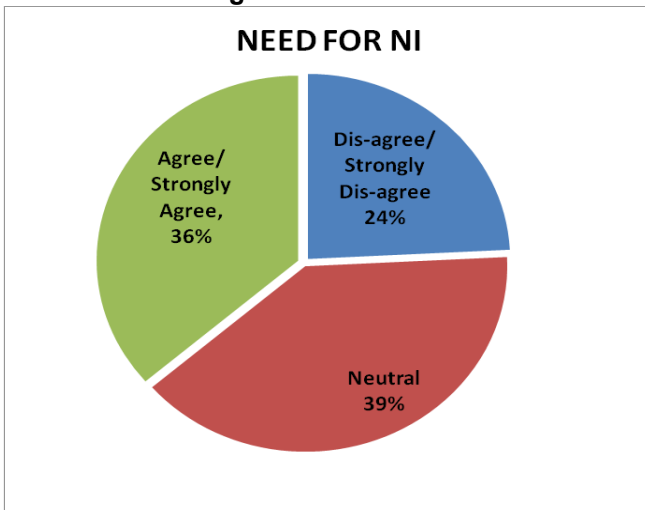
**Table 1** Demographic Characteristics of Respondents

<b>Gender</b>	<b>N</b>	<b>Valid%</b>
Female	216	62.2
Male	131	37.8
<i>Total</i>	347	100.0
<b>Age</b>	<b>N</b>	<b>Valid%</b>
18 – 24	47	13.5
25 – 34	52	15.0
35 – 44	36	10.4
45 – 54	79	22.8
55 – 64	70	20.2
65 – 74	40	11.5
≥ 75	23	6.6
<i>Total</i>	347	100.0
<b>Ethnicity</b>	<b>N</b>	<b>Valid%</b>
White/Anglo	288	83.0
Others	59	17.0
<i>Total</i>	347	100.0
<b>Annual Household Income</b>	<b>N</b>	<b>Valid%</b>
≤ \$24,999	55	15.9
\$25,000 - \$49,999	68	19.6
\$50,000 - \$74,999	75	21.6
\$75,000 - \$99,999	67	19.3
\$100,000 - \$124,999	40	11.5
\$125,000 - ..> \$150,000	42	12.1
<i>Total</i>	347	100
<b>Highest Level of Education</b>	<b>N</b>	<b>Valid%</b>
High school or less	28	8.1
Some college or Associate degree	94	27.1
Bachelor's degree	101	29.1
Master's degree	71	20.5
Professional / Doctorate degree	53	15.2
<i>Total</i>	347	100

**Objective 1: To determine the size of the market segment that need and intend to use nutritional information in full-service restaurants**

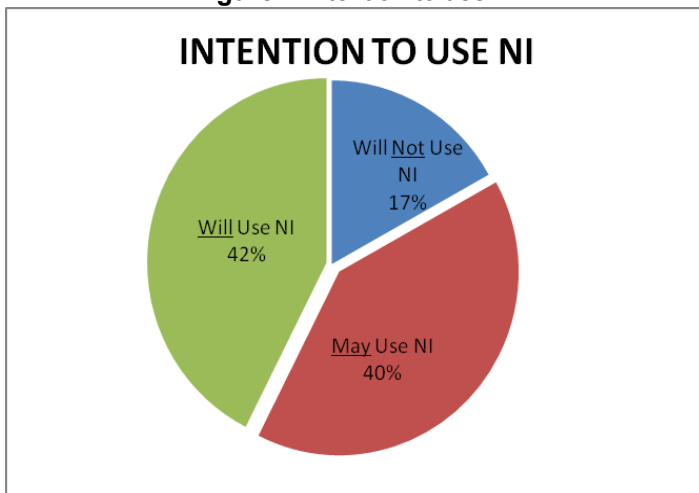
The study found that 36% of respondents feel the need for NI, 39% are neutral and only 24% of the respondents don't want NI to be made available on menus in full-service restaurants (Figure 1). This is consistent with earlier studies that have found that about 80% of Americans do want restaurants to provide NI for all menu items (Wootan, 2007).

**Figure 1 Need for NI**



Consistent with these findings, it was also found that 42% of the respondents would use NI, 40% of the respondents may use NI, and 17% of the respondents would not use NI to make dining decisions. This demonstrates the presence of a relatively large market segment of over a third of the respondents that wants NI, and would use NI in full-service restaurants (Figure 2). Since there appear to be distinctive groups with different characteristics, it is important to identify and understand their composition.

**Figure 2** Intention to use NI



**Objective 2: To segment consumers needing and intending use NI**

Market segmentation is based on the assumption that all consumers do not belong to a single homogenous group. Rather, consumers can be grouped into several sub-groups which are homogeneous within and heterogeneous across each group segment. To explore these patterns deeper, a 2-Step Cluster Analysis was conducted. The benefit of 2-Step Cluster method is that the sample is portioned into distinctive and sharply defined naturally defined clusters. The researcher does not force respondents into pre-determined clusters with this method. However, this method also excludes those respondents who clearly do not belong to any of the defined clusters. The resulting defined clusters enable marketers to develop focused product and marketing strategies for each of the distinctive segments.

The Cluster Analysis categorized the respondents into two distinct clusters. None of the respondents were excluded. These clusters were named by the researchers, based on their characteristics. The two clusters are Health Cognizants- those who are mindful of what they eat and their overall health, and Fast Lane Foodies- those who do not give much importance to healthy eating and lifestyle habits (Tables 2a & 2b).

**Table 2a** Cluster Means of Relevant Variables with ANOVA Values

<b>Cluster Summary</b>			
	<b>N</b>	<b>%</b>	
<i>Health Cognizants</i> (Cluster 1)	165	48.2%	
<i>Fast-Lane Foodies</i> (Cluster 2)	177	51.8%	
Total	342	100%	
<b>Observed Clusters</b>			
	<b>Health Cognizants</b>	<b>Fast- Lane Foodies</b>	
	<b>Mean</b>	<b>Mean</b>	
<b>Demographics</b>	<b>%</b>	<b>%</b>	
<i>Female</i>	58.9%	41.1%	n/a
<i>Male</i>	30.5%	69.5%	n/a
<i>Age</i>	<b>Mean</b>	<b>Mean</b>	n/a
<i>Level of Education</i>	4.39	3.95	n/a
<i>Level of Income</i>	3.61	3.21	n/a
<b>Attitudes - Dining &amp; NI</b>	<b>Mean</b>	<b>Mean</b>	<b>F- Value</b>
<i>Dining out is an indulgence</i>	4.72	3.95	19.400**
<i>Dining out is a necessity</i>	2.70	3.06	3.517
<i>NI on restaurant menus is important</i>	4.84	2.85	198.759**
<i>I need NI on full service restaurant menus</i>	5.04	2.94	193.376**
<i>NFL on packaged food is important</i>	5.88	3.76	214.928**
<i>NI on menus would help me decide</i>	5.67	3.05	320.840**
<i>Portion size labeling on menus is important</i>	5.64	3.63	182.885**
<b>Behaviors &amp; Habits –Health &amp; Dining</b>	<b>Mean</b>	<b>Mean</b>	<b>F- Value</b>
<i>Exercise frequency</i>	4.48	3.69	17.048**
<i>Current overall health</i>	5.21	4.58	28.775**
<i>Current dining out frequency</i>	3.28	3.37	.305
<i>Watchful about food choices</i>	5.65	4.23	103.873**
<i>Eat healthy at home Vs. restaurants</i>	5.32	4.41	36.063**
<i>Order healthy food item</i>	4.04	2.60	128.943**
<i>Strategize ordering to reduce portion size</i>	3.35	2.54	43.062**
<i>Substitute with a healthy food item</i>	4.52	3.11	88.457**
<i>Use NFL on packaged food</i>	4.99	3.10	180.539**
<b>Behavioral Intentions – Health</b>	<b>Mean</b>	<b>Mean</b>	<b>F- Value</b>

**and NI**

<i>Intention to improve health</i>	6.16	5.49	31.101**
<i>Intention to eat healthy when dining out</i>	6.04	4.13	213.699**
<i>Intention to use NI in full-service restaurants</i>	4.99	2.99	353.751**
<i>Intention to dine out more if NI was available</i>	5.24	2.98	155.618**

Note: \*p<.05, \*\*p < .01.

**Table 2b** Cluster Characteristics of Relevant Variables with Chi-Square values from CROSSTABS

**SOCIODEMOGRAPHIC CHARACTERISTICS OF CLUSTERS**

	<i>Health Cognizant</i>	<i>Fast-Lane Foodies</i>	<b>Total Percentages</b>	<b>Chi-Sq.</b>
<b>Gender</b>				<b>25.890**</b>
<i>Male</i>	30.5%	69.5%	100%	
<i>Female</i>	58.9%	41.1%	100%	
<b>Age</b>				<b>28.796**</b>
<i>18-34</i>	29.5%	70.4%	100%	
<i>35-54</i>	48.0%	52.0%	100%	
<i>55-74</i>	65.8%	34.2%	100%	
<b>Education</b>				<b>17.235**</b>
<i>Some HS or less</i>	0%	100%	100%	
<i>HS Grad or GED</i>	47.1%	52.9%	100%	
<i>Some College or Associate</i>	37.5%	62.5%	100%	
<i>Bachelors</i>	52.0%	48.0%	100%	
<i>Masters</i>	58.1%	41.4%	100%	
<i>Professional</i>	66.7%	33.3%	100%	
<i>Doctorate</i>	51.3%	48.7%	100%	
<b>Household Income</b>				<b>10.963</b>

Note: \*p<.05, \*\*p < .01.

### ***Health Cognizants***

The Health Cognizants segment is well educated (Masters Degree), belongs to a high socio-economic strata (\$50,000 to \$74,999 or higher) and is older (45-54). This group is the larger of the two segments, representing the majority of the identified cluster sample (Table 2b).

It is found that the Health Cognizant segment has positive attitudes towards NFL on packaged foods, and NI on menus. Consistent with their attitudes, this segment practices healthy lifestyle and eating behaviors and habits. In line with their attitudes and behaviors, this segment intends to improve their health. The Health Cognizants are also the ones who dine out less often, and consider eating out to be an indulgence. This segment is more likely to use NI to make their dining decisions, and more likely to increase frequency of dining if NI was available (Table 2a).

### ***Fast-Lane Foodies***

The *Fast-Lane Foodies* are younger (35-44), not as educated (Bachelors' Degree), and not as affluent (\$25,000 to \$49,999) as the *Health Cognizants*. This group is the smaller of the two segments, representing the minority of the identified cluster sample (Table 2b).

Furthermore, the *Fast-Lane Foodies* are indifferent in their attitudes towards NFL and NI, not as conscious of their eating behaviors and habits, or as particular about their health lifestyles, compared to the *Health Cognizants*. The *Fast-Lane Foodies* dine out more often, and do not necessarily consider dining out as being an indulgence. This segment may not use available NI, or change their dining frequency if NI was made available (Table 2a).

### **Objective 3: Understanding significant attitudinal, behavioral, and intent differences between clusters**

This study examined the relationship between a variety of health and dining related lifestyles of respondents. One-way ANOVA tests were conducted to identify statistically significant differences between the segments based on their attitudes, habits, and behavioral intentions, as given below:

### **Attitudes - Health and NI**

ANOVA analysis revealed significant differences in means between *Health Cognizants* and *Fast-Lane Foodies* with respect to their attitudes towards NI, healthy eating, and a healthy lifestyle (Table 2a). *Health Cognizants* were observed to have favorable attitudes to the provision of NI, on a number of measures. This segment feels the need for having NI available in full-service restaurants, and recognizes the importance of NFL on packaged food. They favor the provision of portion size labeling on menus also. This suggests that they understand nutritional and health issues pertaining to eating out very often; hence, they dine out less often, considering it an indulgence.

On the other hand, the *Fast-Lane Foodies* have significantly less favorable attitudes towards NFL and NI. They do not ascribe much importance to both. In addition, they do not have a favorable attitude about providing portion size labeling on menus. Furthermore, *Fast-Lane Foodies* dine out more often, and do not consider it to an indulgence (Table 2a).

### **Current Behaviors/Habits – Health and Dining**

ANOVA analysis also revealed significant differences in means between *Health Cognizants* and *Fast-Lane Foodies* with respect to their current health and dining related behaviors and habits. *Health Cognizants* exercise more frequently, are more likely to be watchful about their food choices, more likely to eat healthy at home vs. restaurants, and maintain a better overall health. They are also more likely to be current users of NFL on packaged foods. *Health Cognizants* consistently reported significantly higher means on all current healthy dining out behaviors such as: ordering healthy items, strategizing to reduce portion size, substituting with a healthy food item, etc. The *Fast-Lane Foodies*, on the other hand, have completely contrasting practices concerning their food and health related habits (Table 2a).

### **Behavioral Intentions – Health and NI**

Consistent with attitudes and current habits, ANOVA analysis also revealed significant differences in means between *Health Cognizants* and *Fast-Lane Foodies* with respect to their behavioral intentions. Sharp contrasts between the two segments were observed with respect to all four of their behavioral intentions. *Health Cognizants* segment scored

significantly higher on their intention to improve their health. *Health Cognizants* also reported a significantly stronger desire to eat healthy when dining out. Consistent with these intentions, they reported significantly higher means on their intention to use NI on menus, and to dine out more often if NI was available. The *Fast-Lane Foodies*, on the other hand, reported significantly lower mean scores on all four of the behavioral intention measures (Table 2a).

## SUMMARY OF FINDINGS

The likelihood of future behavior can be predicted by attitudes, habits, and past behavior. While this study did not use a predictive statistical model, a definite pattern of significant relationships was observed between the attitudes, current behaviors/habits of diners, and their intention to use NI on restaurant menus. This is consistent with Bahn and Granzin (1985), who utilized cluster analysis for their benefit segmentation study; they found that nutritional concerns were among the benefits sought, which could affect restaurant patronage. These findings are also consistent with an earlier study that have found past food/health behaviors to be associated with making healthy food choices (Stubenitsky, Aaron, Catt, and Mela, 1999).

This study grouped diners into two distinct segments i.e. *Health Cognizants* and *Fast-Lane Foodies*. The first segment consists of those who are aware and concerned about their health, and practice healthy food habits and related lifestyles. This segment consists of those individuals who want NI, and would use it. This study found that approximately 25% of the respondents did *not* want NI, consistent with earlier studies showing that 80% of Americans *do* want restaurants to provide NI for all menu items (Wootan, 2007). The second segment – the *Fast-Lane Foodies* is composed of those not unduly concerned about such issues.

Diners belonging to the *Health Cognizant* group want NI on menus, and already use NFL on packaged foods. Consistent with this, they intend to use NI in restaurants. It is noteworthy that the *Health Cognizant* group is composed of those in the higher socio-economic strata, who already dine out very frequently, and have the income to support additional dining out at full-service restaurants. The demographics of this segment are closely aligned with that found in a national study of people that engage in healthy lifestyle, cited earlier (Ford, et al., 2001). Furthermore, they intend to increase their frequency of dining out, if NI was made available. This is not surprising, as the provision of such information would enable them to make informed choices, reducing their concern about unhealthy

food choices in restaurants. This is consistent with an earlier study that found the segment of “Healthy-Food Seekers” to be less concerned about price (Yüksel & Yüksel, 2002).

## **MANAGERIAL IMPLICATIONS**

Menu labeling is a front-burner issue in both the popular media and the academic literature. Legislation on menu-labeling is already enacted or on the agenda of legislative bodies in states and cities across the country. Federal legislation like the LEAN Act mandates the disclosure of nutritional information on menus. This act was recently included in the comprehensive healthcare legislation that was passed by the US Congress in March 2010. The foodservice industry needs to take immediate action nationwide to implement the provisions of this act (Rosenbloom, 2010).

The restaurant industry would face many challenges in the implementation of NI on their menus. Implementation could be logistically difficult, expensive, and time consuming. Despite standard operating procedures, frequent changes in menus and variability within the chain would increase costs and complexity of implementation (Boger, 1995).

On the positive side, certain market segments would increase their patronage, if NI were made available. Presenting NI on menus gives restaurateurs an opportunity to target health-conscious market segments. Addressing the concerns of these segments in an innovative manner could offer a competitive advantage to those taking a leadership role.

Restaurateurs will be acting in their own interest by being ahead of the legislation on this major issue. A pro-active menu labeling strategy, in alignment with their business goals, would serve restaurateurs well. A reactive response to one-size-fits-all national legislation, or a patchwork of local regulations, would aggravate the problems of implementation.

As in most issues, consumers’ use of NI depends on many demographic factors. This study has shown that women use NI more than men do; furthermore, provision of NI would encourage women to dine out more often. Marketing materials targeted at women can project the provision of NI as a consumer empowerment strategy.

Diners between 35-65 years of age are the most likely to use NI. Restaurateurs can target this age segment in their marketing materials. Here, the focus should be on the provision of NI on menus as a tool to make better informed healthy-eating decisions.

Highly educated (Post-graduate) participants and those with higher income levels are more likely to use NI. Here again, marketing materials

can show the restaurant catering to the lifestyle of affluent, health-conscious diners. Such imagery would also resonate with other segments that aspire to this lifestyle.

Inundating the consumer with marketing imagery cannot cover up the reality of menus laden with tasty, but unhealthy, calories and fat. The industry needs to address the reality of providing healthier meals at restaurants. There is a great need to invest in research and development of new items that are healthful, yet flavorful and appealing to consumers. Furthermore, existing menu items need to be re-engineered to reduce their fat and calorie content, while enhancing their flavor profile, to respond to consumer demand.

## **FUTURE STUDIES**

Future studies could address the development of predictive statistical methods, such as Structural Equation Modeling (SEM), that would give a deeper insight into the motivations of consumers with regards to NI on menus (Krukowski et al, 2006). Studies could address consumer perceptions of caloric content of beverages, both alcoholic and non-alcoholic. Studies could also look at the gaps between perception and reality of “healthy” food, such as vegetarian or vegan menu items, in terms of nutritive value. Additional research could also be done on the consumers’ attitudes toward NI in different parts of the world, enabling cross-cultural and cross-national comparisons, since concerns about menu labeling are emerging across the world.

One of the hurdles in the implementation of placing NI on menus is the challenge of providing sufficient but relevant information, while avoiding information overload and clutter. Hence, it is imperative to study the best format to place NI on menus (Stubenitsky et.al., 1999).

## **CONCLUSIONS**

The questions that guided this study were: Whom does the menu inform? How large is the market segment of consumers that really care about NI on their menus? What is the profile of consumers that would be users or non-users of NI? How do the health and food related lifestyles of consumers impact their need for NI, and their intention to utilize NI? Given the costs and complexities associated with placing NI on menus, should restaurateurs provide NI pro-actively?

These questions have been answered as given below:

- NI on menus does inform a significant segment of diners.

- This segment comprises an estimated 35% to 45% of diners in full service restaurants.
- Diners concerned about NI are likely to be female, in the 35 to 65 age group, and predominantly from well-educated, higher socio-economic backgrounds.
- Current food and health lifestyle habits/behaviors do impact intended use of NI.
  - Those already following healthy strategies in terms of exercise, health, and dining habits are the most likely to use NI.
- Despite the cost and complexity of implementing NI on menus, restaurateurs should do so for two important reasons.
  - First, to respond to the needs of a significant market segment, noting that this segment dines out often as part of its lifestyle, and has the resources to do so.
  - Second, to gain first-mover advantage by proactively implementing a NI on menu strategy aligned with business objectives.

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*SUBMITTED: DEC 2011*

*REVISION SUBMITTED: MAY 2012*

*ACCEPTED: JUN 2012*

*REFEREED ANONYMOUSLY*

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