

Factors affecting fast food consumers' intention to use menu labeling in Klang Valley, Malaysia

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Article history

Received: 10 January 2013
Received in revised form:
15 February 2013
Accepted: 18 February 2013

Abstract

Menu labeling is an attempt to educate consumers about the nutrition value of the foods. The importance of using menu labeling has been highlighted in many studies in the past. Although public health programs are educating public on obesity but still this phenomenon is a serious problem in Malaysia. This study identified factors that influence intention to use menu labeling among fast food consumers in Malaysia. The research was conducted among 395 adults in Klang Valley. Respondents completed a self-administrative questionnaire which was adapted from previous studies. Results revealed that attitude, subjective norms and perceived behavioral control had statistically significant positive association with intention and each was significant predictors of intention to use menu labeling and together explained 41% of its variance. The most effective factor was attitude, followed by subjective norms and perceived behavioral control. The outcomes of this study suggested that nutritional knowledge of consumers does not have effect on consumer's intention to use menu labeling; therefore nutritional knowledge of fast food consumers must be improved. Fast food restaurants have to put more effort on encouraging customers to use menu labeling by making the label more accessible and in a user friendly format.

Keywords

Fast food
Intention to use
Menu labeling
Theory of planned behavior
Malaysia

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Introduction

Menu labeling is a list of nutritional information at restaurants which typically reports calories, saturated fat, sodium and carbohydrates. Previous studies have verified that consumers underestimate the calorie especially in high calorie foods (Burton *et al.*, 2006; Chandon and Wansink, 2007; Bates *et al.*, 2011). Therefore menu labeling has been designed as a health education tool to help consumers to achieve healthier diet and better overall health. Food eaten outside, and in particular, fast foods, are high in calories. (Bassett *et al.*, 2008). Obesity, and subsequently, cardiovascular diseases, cancers, diabetes and other diet related diseases are the consequences of such an unhealthy diet (Norimah and Kather, 2003; Satia and Galanko, 2007). According to Ministry of Health of Malaysia cardiovascular diseases is one of the main causes of mortality in Malaysia (MOH, 2011). An increasingly urban lifestyle in Malaysia has led to an estimated 82% of urban population eating out, fuelling the growth in fast food restaurants (Lee and Tan, 2007). In fact, the high rate of fast food consumption within the Malaysian society can be observed via the drastic growth in fast food outlets across the country, especially in urban areas (Lee and Tan, 2007). Despite the common availability of menu labeling in Malaysian fast food restaurants, obesity

and diet related diseases remain on the rise (Ismail, 2002). A study by Wan Nazaimoon *et al.* (2011) observed that 53.1% of the population is either overweight or obese.

Interestingly, research by Norina showed that nutritional information influenced Malaysian customers' future purchase decision (Norina *et al.*, 2011). This is complemented by another study where elderly urban Chinese Malaysian respondents believed that one's nutritional and health status can be improved by utilising nutritional information (Zaitun and Low, 1995). Other studies continue to re-affirm the hypothesis stating the positive correlation between menu labeling availability and consumer food choice (Burton *et al.*, 2006; Bassett *et al.*, 2008; Fotouhinia, 2011). However, in some studies, menu labeling was deemed having minor impact or no influence on consumer food choices (Yamamoto *et al.*, 2005; Harnack and French, 2008). Therefore, it is critical to identify factors which influence the use and intent to use of menu labeling as its use can help consumers consume fewer calories and unhealthy ingredients, leading to the prevention of obesity and other chronic diet-related diseases. Health organizations also stand to benefit from identifying these factors, resulting in the development of nutritional intervention programs that assist fast food consumers to modify their dietary behavior.

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This study uses a modified Theory of Planned Behavior (TPB) as the framework looking into the combination of attitude, subjective norm, perceived behavioral control, and nutritional knowledge relative to the intent on using menu labeling. Investigating these factors hope to shed light on how to rectify consumers' eating behavior. Several studies have looked into the determinants of food choice (Yamamoto *et al.*, 2005; Bassett *et al.*, 2008), yet surprisingly only few have examined nutritional behavior among Malaysian fast food consumers (Azlina *et al.*, 2011; Habib *et al.*, 2011). Furthermore, available studies have been limited in scope, focusing mostly on the attitude and preference of fast food consumers. To date, there has been a lack of study about factors influencing Malaysian consumers' intention to use menu labeling despite increasing presence of menu labeling availability and general awareness of diet-related diseases (Norimah, 2010). Therefore scrutiny of fast food consumers' behavior and identification of factors that influence their intention to use menu labeling are of vital important.

The Theory of Planned Behavior (TPB) is the most popular theoretical framework for predicting health behaviors. Oygard and Rise (1996) proved the usefulness of TPB in detailing the psychological processes underlying a wide variety of health behaviors including that of nutritional behavior. The TPB considers behavioral intention to be an additive function of attitude (favourable or unfavourable evaluation of the particular behavior), subjective norm (the perceived social pressure from important others to perform or not perform the particular behavior), and perceived behavioral control (the perceived ease or difficulty of performing the particular behavior). These constructs in turn influence subsequent behavior through behavioral intentions (Ajzen, 1991). TPB therefore posits that to the extent that people intend to engage in more healthy eating, they need to believe that they have control over performance of these specific behaviors, in addition to what they personally get out of it (attitude) and others' approval of it (subjective norm). The relative importance of the three components is assumed to differ with regard to the particular behavior in question and the target population. The TPB has been used in a number of studies to focus on behavioral intentions related to performance of a number of dietary behaviors in terms of healthy eating (Oygard and Rise, 1996; Astrom and Rise, 2001; Fila and Smith, 2006) and purchase of halal food (Alam and Sayuti, 2011). The most consistent finding from these studies was that attitude is a better predictor of behavioral intention and actual behavior

than subjective norms and perceived behavioral control.

An expanded version of the Rational Expectations Intention (ERE) model was constructed, using knowledge and social acceptability to assist in identifying factors that influence consumer intention and behavior (Sapp, 1991). Evidence indicating that knowledge, attitude, and behavior have an interactive relationship leading to improvement in dietary behavior and better health was provided by St. Pierre and Rezmovic (1982). In contrast, research by Adams *et al.* (2000) demonstrated that knowledge had no direct or indirect effect on intention. However, they did indicated that further work is required as information and facts tend to be unique or context based in each investigation. The main argument stands that 'nutritional knowledge' is a necessary but not sufficient factor for changes in consumers' behavior. A study of middle aged Malaysian women in 2006 showed a positive correlation between education and nutritional knowledge (Pon *et al.*, 2006). This suggests that 'education', a measurable or recordable socio-demographic characteristic, encourages a different set of beliefs and values (or interests) among participants (versus a 'less educated' segment). Hence, along with a study by Pirouzna in 2001 where nutritional knowledge was found to have a significant relationship with eating behaviors of some respondents, an extrapolation can be presumed that education can also be correlated with eating behavior.

Conceptual model and hypotheses

The conceptual model used in this study, shown in Figure 1, is adopted from TPB and ERE. The intention of using menu labeling preceded the process before actual label use, while intention reflects future behavior. To examine the relationship of attitude, subjective norm, perceived behavior control, and nutritional knowledge on behavioral intention of using menu labeling, four hypotheses were developed.

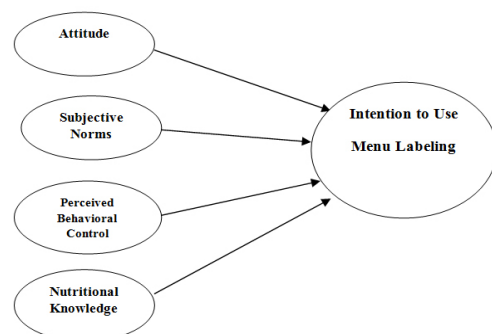


Figure 1. Conceptual framework adopted from Theory of Planned Behavior (Ajzen 1985) and Expanded Rational Expectation Model (Sapp, 1991)

Attitude is the evaluation of performing a particular behavior. Attitude refers to the degree to which a person has favourable or unfavourable evaluation or appraisal of the behavior in question. Therefore, attitude can be considered as an important part of predicting and describing human behavior (Ajzen, 1988). Thus, the following hypothesis needs to be substantiated:

H1. There is a significant relationship between attitude and intention to use menu labeling.

The predictor social factor termed subjective norm is the perceived social pressure to comply with expectations about engaging the behavior which should influence the individual's intention to perform or not the behavior. If social expectations are that people should perform the behavior in question, then the individual should be more likely to do so. Conversely, if social expectations are that people should not perform the behavior, then the individual should be less likely to do so (Armitage and Conner, 2001). In this case, if using menu labeling is seen as socially desirable behavior, based on what important others think about it, than the individual is more likely to use menu labeling. In this study, subjective norm is the perceived social pressure that influences consumers' decisions to use menu labeling. For this context, we propose:

H2. There is a significant relationship between subjective norm and intention to use menu labeling.

According to Ajzen (1991), perceived behavioral control is the extent to which a person feels he or she is able to engage in the behavior. It has two aspects: how much a person has control over behavior and how confident a person feels about being able to perform or not perform the behavior. It is determined by the individual's beliefs about the power of both situational and internal factors to facilitate the performing of the behavior. The more the control an individual feels about using menu labeling, the more likely he or she will be to do so. In this study, perceived behavioral control is the ability to use menu labeling. Therefore, the hypothesis is:

H3. There is a significant relationship between perceived behavioral control and intention to use menu labeling.

Knowledge is a group of information which helps to explain important aspects of things and processes or awareness about how to do things. Nutritional knowledge is knowledge of nutrients and nutrition (Worsley, 2002). In some studies (Pirouznia, 2001; Noor-Aini *et al.*, 2006; Pon *et al.*, 2006; Norimah *et al.*, 2010) knowledge was considered to affect attitude or be affected through a person's education level. In the model of this study, nutritional knowledge has

been assessed as a separate variable. It is expected that as nutritional knowledge increases, the person intention to use menu labeling will increase too. In this study nutritional knowledge has been evaluated through a set of basic nutrition statements. The last hypothesis is:

H4. There is a significant relationship between perceived nutritional knowledge and intention to use menu labeling.

Materials and Methods

Sample

Fast food consumers cannot be differentiated from the whole population of Malaysia therefore non-probability convenience sampling technique had been chosen for this research. Pilot test was conducted and some changes were made in construction of words to be more understandable for the respondents. The final questionnaire was administered among consumers having dinner or lunch in a fast food restaurants. The fast food outlets chosen for this study were in 10 main shopping malls in Klang Valley area which is a representative of an urban population in Malaysia. A total of 440 questionnaires were collected that 45 of them were incomplete and eliminated from the report. Information was collected through a self administrated questionnaire which 395 respondents (89.77%) provided complete information. Because of financial independency and having a basic nutritional knowledge, respondents' age in this study was 18 years old and above. Adolescence's characteristics, motivators and level of their knowledge are totally different with adults and they have to be investigated in a separate study. This study was conducted between March and October 2012.

Measures

All variables which were intended to measure in this study are adopted from previous studies. The construct of questions was measured by using Likert scale (Fila and Smith, 2006) and modified so that the focus was on menu labeling and intention to use. All questions used a five-point Likert scale in which 1 indicated "strongly disagree," to 5 indicated "strongly agree."

The questionnaire consists of six parts. The first part measured nutritional knowledge (11 items). While the second part measured attitude (10 items) and third part measured subjective norms (6 items), fourth part measure perceived behavioral control (7 items) and part five evaluate intention (3 items). The last segment of questionnaire, part six, asked about the socio-demographic of respondents.

Regression analysis was used to find the relationship between attributes. Data was analyzed using the Statistical Package for the Social Sciences (SPSS, Version 19). Descriptive analyses such as percentage, frequency, and cross tabulation were employed.

Reliability

The Cronbach's alpha estimated for attitude was 0.840, subjective norm was 0.785, perceived behavioral control was 0.711, nutritional knowledge was 0.706 and behavioral intention scale was 0.843. As the Cronbach's alpha in this study were all much higher than 0.6 and therefore deemed to have adequate reliability (Nunnally, 1978).

Results

The demographic characteristic of the respondents (Table 1) indicated that out of 395 participants (Oygar and Rise, 1996), 60.3% were females and 39.7% males. The age of respondents was 18 years old and above which highest number of respondents were between 18 and 29 years old (67.8%). The percentage of three main races (Malay, Chinese and Indian) respectively was 61.8%, 26.6% and 7.8% which represents an acceptable ratio of them in Malaysia (Habib *et al.*, 2011). Number of singles was higher (65.4%) compare to married (33.2%) and divorced/ separated ones (1.5%) and more than half of them were university degree holders (53.2%). BMI of 23.3% of respondents showed they are in danger of obesity, either they are overweight (BMI 25-29.99) or obese (BMI 30 and above). From the total population of respondents, 13.7% of them were underweight (BMI 18.49 and below) and 63% were in normal range (BMI 18.5- 24.99).

Table 1. Socio-demographic statistics of fast food consumers

Socio-demographic Factors			
Frequency (n = 395)	Percentage (%)		
Gender	Male	157	39.7
	Female	236	60.7
Race	Malay	244	61.8
	Chinese	105	26.6
	Indian	31	7.8
	Other	15	3.8
Age Group	18-29 years old	268	67.8
	30-39 years old	86	21.8
	40-49 years old	32	8.1
	50-59 years old	7	1.8
	60 years old and above	2	0.5
Education Level	Secondary School	72	18.2
	Diploma	113	28.6
	Degree	169	42.8
	Post graduate	41	10.4
BMI	Underweight (> 18.5)	54	13.7
	Normal weight (18.5-24.99)	249	63
	Over weight and obese (< 25)	92	23.3

Table 2 exhibits the outcomes of regression analysis. The multiple regression was used in this study to estimate the coefficients of the linear equation involving four factors that best predict. The results obtained, as shown in Table 2, revealed that H1, H2 and H3, were found to be significant in the predicted model. Regression equation of this study is followed:

$$Y = -.548 + .538 (\text{attitude}) + .254 (\text{subjective norm}) + .234 (\text{perceived behavioral control}) + .031 (\text{nutritional knowledge})$$

The analysis of intention to use menu labeling was significant ($F_{5,385} = 53.439, \rho = .000$). Measured variables contributed approximately 41% ($R^2 = .410$) to fast food consumers' intention to use menu labeling. Results indicated 'attitude' ($\beta = .398, \rho = .000$) had the highest effect on using menu labeling of consumers and it followed by 'subjective norm' ($\beta = .229, \rho = .000$), and 'perceived behavioral control' ($\beta = .173, \rho = .000$). 'Nutritional knowledge' ($\beta = .029, \rho = .489$) was found to be no significant effect on intention to use menu labeling ($\rho = .489$).

Table 2. Regression of factors influencing intention to use menu labeling among fast food consumers

Dependent variable	Independent variables	Regression coefficient			
		R(R ²)	Unstandardized	Standardized	Sig. t value
Intention	Attitude	.640(.41)	.538	.398	.000 8.468
	Subjective Norms		.254	.229	.000 5.262
	Perceived Behavioral Control		.234	.173	.000 4.178
	Nutritional knowledge		.031	.039	.489 .692

Discussion and Conclusion

The main objective of this study was to explore the factors influencing fast food consumer's intention to use menu labeling in Klang Valley, Malaysia. The study findings show that the modified TPB model could explain 41 percent of the variance in the intentions to use menu labeling. The model was statistically significant and the finding of this study also demonstrates the strength of TPB in helping to explain intention to use menu labeling. Some studies have successfully used the TPB as a theoretical framework from which to examine the healthy eating intention (Oygar and Rise 1996; Astrom and Rise, 2001; Fila and Smith, 2006).

The study showed that attitude has a significant and great positive effect on intention to use menu labeling. This finding is in line with previous studies on dietary behavior (Oygar and Rise, 1996; Kassem *et al.*, 2003). Attitude is an important factor

in influencing consumer's intention to use menu labeling because those with high positive attitudes appeared to have greater intentions to intent to use menu labeling. Public advertisement regarding consequences of healthy diet and importance of menu labeling may compensate for high favorable attitudes in building intentions to use menu labeling among fast food consumers.

Consistent with the study of Astrom and Rise (2001), this research found that subjective norm was positively and significantly related to intention. This study also confirms another study carried out in Malaysia by Alam and Sayuti (2011) which found subjective norms factor is more important in Asian culture. In more individualistic cultures like Western culture, people perceived themselves as autonomous and independent of the group and prioritized personal goals over collective goals, which would lead to a higher use of personal attitude versus social norms in behavioral decisions. On the other hand, in collectivistic cultures such as Asian culture, people tend to perceive themselves as interdependent with their group and tend to strive for in-group rather than personal goals. This is matched with the findings of this study that subjective norm is important in influencing consumers' behavioral intention, especially in Malaysia, which is culturally a collectivistic country.

Based on the present findings, nutritional information is not a critical predictor on behavioral intention ($\rho = .489$). However, this finding, contrary to the findings by McEachern and Warnaby (2008) which means nutritional knowledge is an important factor in influencing consumer intention to do something. This matter shows the importance of nutrition education among Malaysian in order to encourage them to use menu labeling.

The study also confirmed that perceived behavioral control has a significant effect on intention to use menu labeling. The relationship is a positive relationship which means that the greater impact of control in explaining variability in behavior is not unusual. Previous studies concerning various dietary behavioral criteria have reported similar findings (Oygar and Rise 1996; Astrom and Rise, 2001; Kassem *et al.*, 2003; Alam and Sayuti, 2011). Ajzen (1991) suggested that control could directly affect behavior by increasing effort to goal achievement.

This research may help health promoters to create educational programs to promote menu labeling and inform fast food consumers about the benefits of it. Also fast food restaurants can design and provide information in an easier and user friendly method in order to encourage use of menu labeling and enable

patrons to utilize it easily. Furthermore parents, health professionals can be targeted to propagate the message of healthy eating and use of menu labeling among youngsters and families. Lastly, health policy makers can establish a legal framework which compels fast food operators and mass media to convey nutritional facts, through educational and promotional campaign inside and out of restaurants.

According to a study carried out in Shah Alam, Malaysia by Azlina *et al.* (2011) fast food consumers positively perceived newly remodeled menu labels; Icon based label which is easier to understand, as a good effort toward healthy lifestyle. Mandatory law of nutritional information disclosure in food outlets with more than 20 location, and official guidelines for specification of menu labeling in United States is an example which can be applied in Malaysia as well (Bassett *et al.*, 2008).

In terms of theoretical implication, this study will complement the literature on the subject of consumer behavior, by examining the modified Theory of Planned Behavior, and reveal the relationship of knowledge and other independent variables with behavioral intention. Also, this research adds up to a body of literature regarding menu labeling and its effects on consumers' intention in Malaysia. Current research shows the strength and weaknesses of different factors regarding use of menu labeling.

A few variables in this study were being tested; therefore it is recommended that another study which focuses more on the role of nutritional knowledge of fast food consumer's intention to use menu labeling needs to be carried out in the near future. Furthermore this research was conducted only among adult, while adolescents and younger kids in general are one of the most keen consumers of fast foods, for that reason, another study is proposed to specifically examine the influential factors on intention to use menu labeling among this group.

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