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## Impact of food labeling information on consumer purchasing decision: with special reference to faculty of Agricultural Sciences

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### Abstract

Consumer's attitudes towards the nutritional aspect of the foods are increasing rapidly. In this context, labels of food products play a significant role in providing the relevant nutrition information to consumers. This study was conducted with a view of identifying important nutritional labeling aspects that consumers would examine at the time of purchasing. Ultimate objective was to draw conclusions that provide important information for the food processors about consumer behavior in related to food nutritional aspects and the purchasing intention. Pre-tested structured questionnaire was employed to collect data from random sample of 90 respondents. Rank Based Quotient test and descriptive analytical tools were used to analyze the data. This study shows that majority of the respondents tend to examine the labels when making the purchasing decision due to evaluate the suitability of the food product for vegetarians, religious reasons, to avoid diseases related to food and to check whether the food is organically grown or not. Complicated life styles, their brand loyalty and complicated nature of food labels were the major reasons for not examine food labels. The promising opinions of respondents on existence of food labels were to know the expiry date, to know the nutritional composition and as a legal requirement. Majority of the consumers importantly concern on nutrient status. Monosodium Glutamate content strongly influence the purchasing decision of considerable fraction of the respondents. Name of the food was rated the most important mandatory labeling information. Food safety, environmental protection, origin of the food and brand reputation were the most concerning factors when observing food labels in the process of purchasing food products. According to the Suggestions produced by the respondents, making information easier to understand, standardizing the presentation information, creating colorful and attractive labels were highlighted as the major suggestions. Eventually findings of this study suggests food producers should draw and implement the strategies by considering above key results in order to improve the status of food labeling as well as nutritional status of the consumers.

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### 1. Introduction

Consumer’s attitudes towards the nutritional aspect of the foods and proper eating habits are increasing rapidly. Therefore, consumers’ are more concern about balance and healthier diet. Further they are becoming more demanding about nutritional information, safe and quality food. In this context, labels of food products play a significant role as it provides all the mandatory information regarding nutritional composition, safe and quality food. Basically, labels provide information on ingredients of the food products, nutritional properties, preparation, storage, etc.<sup>1</sup> Consumers purchasing decisions mainly depend on the perception of the product. Food labeling is one of the most important factors affecting for the purchasing decisions of the consumers. When designing the labels for food products, manufacturers should follow the legislations imposed by the government of a particular country. Labels should provide detailed and exact nature and characteristics of the food product without misleading the consumers. Despite the research interests regarding consumer purchasing behavior, less information is available on the influence of label for consumer’s purchasing decisions. Therefore, this study examines the consumer’s attitudes towards the food labeling and influence of food labels on consumer’s purchasing decision.

### 2. Methodology

The deductive approach was used in this study. Quantitative data were gathered using cross sectional survey strategy. Faculty of Agricultural Sciences, Sabaragamuwa University of Sri Lanka was the research location. The target population was comprised with all the students of Faculty of Agricultural Sciences (275). Due to limited time period and inadequate financial budget, 90 respondents were randomly selected to evaluate the objectives of this study. Computer-aided simple random selection method was used to select the cases. Primary data were collected through Pre-tested self-administered structured questionnaire. The questionnaire for this study consisted with demographic information, dependent variable and independent variable. Summary of dependent and independent variable is as follows.

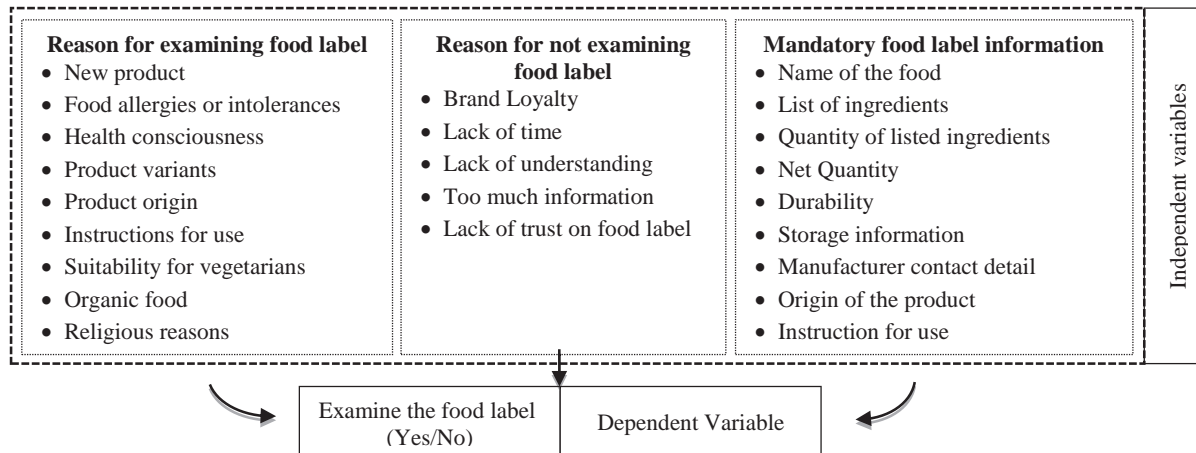


Fig.1. Summary of variables

Further analysis of data was done by utilizing SPSS-21 Statistical Package and MS Excel 2010 software package. Rank Based Quotient (RBQ) test and descriptive analysis techniques were used as main analysis tools.

### 2.1. Rank Based Quotient (RBQ) Test

Using the ranks provided by the respondents, a RBQ for each constraint was calculated on the basis of the following formula in order to find out the order of important food label information.

$$RBQ = \sum_{i=1}^n \frac{(fi(n+1-i))}{Nn} \times 100\% \quad (1)$$

Where,  $fi$  = the frequency of respondents for the  $i^{\text{th}}$  rank,  
 $N$  = the numbers of respondents,  
 $n$  = the number of ranks.

### 3. Results and Discussions

Data were analyzed using descriptive statistics. Ninety eight percent (98%) of the respondents tend to examine the labels on food products. Since, there are many health related issues such as banned products, unauthorized chemical contents, and harmful flavor enhancers' etc. people are more likely to examine food labels than previous. Among the respondents who examine the labels, only 29% of the respondents always examine food label while 3% of the respondents examine the food labels very rarely. According to the depicted results, major reasons to examine the food labels were, to evaluate the suitability of the food product for vegetarians (89%), to avoid diseases related to food (85%), religious reasons (83%), and to check whether the food is organically grown or not. Two percent (2%) of the respondents stated that they do not examine food labels due to their complicated life styles (71%), their brand loyalty (47%) and complicated nature of food labels (44%). This finding further elaborated by APO (2002)<sup>2</sup>, that food labels have become increasingly complex, particularly as products move from the status of basic commodities to highly processed, value-added products.

According to the results, the promising opinions of respondents on existence of food labels were to know the expiry date (80%), to know the nutritional composition (74%) and 41 % of respondents consider labels as a legal requirement. This result emphasizes that food label information can affect for consumer's purchasing decision. Similarly, Pathiraja and Ariyawardana (2003)<sup>3</sup> stated that the nutritional details on the labels can change the purchasing decisions of the consumers.

Quality standards, salt, sugar, fiber, fat, calorie and other nutrient content were the tested nutritional information which could affect for purchasing decisions of the consumers. According to the depicted results, majority of the consumers importantly concern on nutrient status (66%), fiber content (34%), fat content (34%) and calorie content (33%). This result clearly indicates that the consumer's purchasing decision is more toward health consciousness. This finding can be strengthen according to the findings of APO (2002)<sup>2</sup> that depicted the similar result that nutritional labels can simplify the whole concept of healthy eating and it helps to keep track of the amount of fat and sugar, sodium and fiber, protein and carbohydrates. It also allows consumers to make an informed judgment of a product's overall value.

Monosodium Glutamate (MSG) is a common food additive with hazardous health effect if not followed the recommended dosages. Therefore, present study investigated the consumer's intension on MSG when making their purchasing decisions. Importantly, Monosodium Glutamate content strongly influence the purchasing decision of considerable fraction of the respondents (21%) while it does not influence only three percent's purchasing decisions.

Generally, the information provided on the label may be the only source of information available to the consumer at the time of purchasing the product, so it is important that consumers are able to understand this information when purchasing the food products<sup>4</sup>. Therefore, respondents were asked to prioritize the provided mandatory food labeling information according to meet their requirements. Table 1, represents the results of Rank Based Quotient test for mandatory food labeling information.

Table 1: Results of Rank Based Quotient test for mandatory food labeling information

Importance of mandatory labeling information	Rank	Final RBQ (%)
Name of food	1	85.56
Date of minimum durability	5	79.00
List of ingredients	2	74.89
Quantity of certain ingredients	3	60.11
Special storage information or conditions of use	6	55.33
Instruction for use (where necessary)	9	54.44
Net quantity	4	50.33
Contact details of manufacturer/ packer or seller	7	44.11
Origin (if absence misleading)	8	39.56
Alcoholic strength for beverages	10	34.44

According to the depicted results, name of the food was rated the most important mandatory labeling information, with 85.56% scoring. That clearly shows that the brand names and the product names are the most important information when they make purchasing decision. These ranks are followed by date of minimum durability, list of ingredients, quantity of certain ingredients, special storage information or conditions of use, instruction for use, net quantity, contact details of manufacturer, origin and alcoholic strength for beverages.

Table 2, illustrates the factors concerning when observing food labels. According to the results obtained, food safety, environmental protection, origin of the food and brand reputation were the most concerning factors when observing food labels while animal welfare, fair trade, sustainable agriculture and traceability were relatively less concerning factors in the process of purchasing food products.

Table 2: Factors concerning when observing food labels

Factors concerning on the labels	Concerning level				
	SU %	U%	N%	C%	SC%
Food safety	7	4	8	26	55
Traceability	8	10	38	30	14
Animal welfare	9	16	35	34	6
Environmental protection	6	8	28	38	20
Genetically modified	9	8	26	34	24
Fair trade	8	9	49	28	6
Organic food	6	16	40	31	8
Sustainable agriculture	9	10	40	32	9
Brand reputation	8	4	28	36	24

Label is not just a piece of paper attached on to a product; it is very useful for making purchasing decisions. Further, it should contain correct and appropriate amount of information about the product<sup>3</sup>. Therefore, respondent's opinions to improve the food labels were evaluated. According to the Suggestions produced by the respondents, making information easier to understand (87%), standardizing the presentation information (53%), creating colorful and attractive labels (38%) were highlighted as the major suggestions. Therefore, when designing the food labels producers should be concerned on above matters than previous.

#### 4. Conclusion

This study shows that majority of the respondents tend to examine the labels when making the purchasing decision due to evaluate the suitability of the food product for vegetarians, religious reasons, to avoid diseases related to food and to check whether the food is organically grown or not. Complicated life styles, their brand loyalty and complicated nature of food labels were the major reasons for not examine food labels. The promising opinions of respondents on existence of food labels were to know the expiry date, to know the nutritional composition and as a legal requirement. Majority of the consumers importantly concern on nutrient status, fiber, fat and calorie content. Monosodium Glutamate content strongly influence the purchasing decision of considerable fraction of the respondents. Name of the food was rated the most important mandatory labeling information followed by date of

minimum durability, list of ingredients, quantity of certain ingredients, special storage information or conditions of use, instruction for use, net quantity, contact details of manufacturer, origin and alcoholic strength for beverages. Food safety, environmental protection, origin of the food and brand reputation were the most concerning factors when observing food labels while animal welfare, fair trade, sustainable agriculture and traceability were relatively less concerning factors in the process of purchasing food products. According to the Suggestions produced by the respondents, making information easier to understand, standardizing the presentation information, creating colorful and attractive labels were highlighted as the major suggestions could food labeling be improved further. Eventually findings of this study suggests food producers should draw and implement the strategies by considering above key results in order to improve the status of food labeling as well as nutritional status of the consumers.

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