

# Effects of Food Labels on Consumer Buying Behaviour of Packaged food Products: a Comparative Study of Male-Female in NCR, India

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## ABSTRACT

*Customers are expected to have different Motivating and De-motivating factors to search for use the information on food labels. Various Motivating and De-motivating factors are studied which effects usage/non usage of food labels during food shopping. This study aims in exploring various Motivating and De-motivating factors which effects usage/non usage of food labels during food shopping. Six Motivating factors are identified which persuade customers to read food labels to select the best packaged food for themselves and their family member's. Seven De-motivating factors are listed which respondents encounter when using food labels and their reasons for not using food labels. This study also compares the effect of Motivating and De-motivating factors for reading labels among the Males / females using independent sample T test. The data was obtained from the Households of NCR, India. Sample of 500 questionnaires were distributed and out of these 474 responses were recorded and compared.*

**Keywords:** Motivating, De-motivating, Households, consumer.

## INTRODUCTION

Packaging has been considered as the science and art of shielding products for the purpose of distribution. It is also for the designing process, evaluating and producing of the packaged items. Packaging may be divided in three types: primary, secondary and tertiary. Labeling is either written, electronic, or graphical communications on the packaging. The objectives of labeling: brand identification, providing the information and promotion. Labels on the food products are proposed for consumer information. It also helps in selling the product and choices of food items. It is the sole accountability of the firms for the healthiness and protection of consumers (Ababio et al, 2012). Misleading information might be the causes for human diseases. These may also be sometimes leads to death (Asiamah, 2006; Leech, 2006).

The health and security of consumer is directly related with the understanding of information labelled on the food item. Inappropriate knowledge of food level, the consumer goes in the wrong direction in the selection of healthy food items. Therefore, it has been shown in several researches that the language written on the food item as label is big problem to the customer in the interpretation of the label at the time of purchasing the food item. It has been recommended that both English and the local language should be used on the food label. It will help to the consumer for better information as well as in taking judgment for the buying the items (Schmidt and Loving, 2011).

## LITERATURE REVIEW

There is no other way except the food labels to aware the consumers about the healthy and nutritional food. The understanding and usage of food label at the time of purchase leads to the consumer towards healthy as well as food choices (Hoefkens et al, 2012). Food label is advantageous for the fulfilling of immediate and future food related needs. It guide to the consumer in changing food shopping behaviour from unhealthy to healthy. The nutritional information assists to the customers in informed choice decision (Liu et al, 2015).

Changing or diverting human regular behavior towards any new search is difficult and sometime near to impossible. The reason behind this difficulty is the strong footing of any right or wrong perception towards performing any regular behavior. Therefore, perception towards healthfulness is influenced by many factors and familiarity factor is one of them (Priven et al, 2015).

Personal relevance with food product label is directly proportional with the perceived benefits linked with food items and healthfulness (Dean et al, 2012). Actually, targeting consumer consciousness and fear of illness, behaviour is the main goal of food processing companies. A study, in the past, has derived a conclusion from its results that consumer perception about the drastic effect of food on health, direct consumer to avoid any unhealthy food intake and increase the interest in searching healthy food and nutritional related information (Yeung and Yee, 2003).

## RESEARCH METHODOLOGY

Survey research method by Structured and Non Disguised Questionnaire was used for the study. The NCR region was selected for completing the study. A total of 500 questionnaires were circulated among the respondents. Out of these 474 were considered fit for the analysis.

The questionnaire was comprehensive addressing the issue related 'consumer buying behaviour'. The responses were recorded on 7-point Likert scale.

### Respondents' motivations/ Demotivations to read food labels

Customers are expected to have different Motivating and De-motivating factors to search for use the information on food labels. Various Motivating and De-motivating factors are studied which effects usage/non usage of food labels during food shopping.

### Respondents' motivations for reading food labels

Motivating factors are those factors which persuade customers to read food labels to select the best packaged food for themselves and their family member's .Six factors i.e. customers read food labels in a store itself as it affects the purchase decisions instantly, if customers are purchasing the packaged food product for the first time they don't have any information about the product, customers can see labels at home as this is more convenient or they can use labels basically to identify the nutrient content of specific food product. They can directly read descriptive nutritional labels made on front of package, such as low in fat, high in DHA etc. If the customer or his family members is having some disease or following a special diet for medical reasons, they read food labels.

Consumers are expected to have different motivations to search for or use the information on food labels as determined by the perceived risk they associates with the use of the product. Six motivating factors are studied and analysed, 38.40% respondents said Agree that they read labels in a store while doing food shopping to assist with purchase decision. 42.83% said Agree that they read labels while buying packaged food product for the very first time, 23.84% said Disagree that they see labels at home as this is more convenient. 46.20% replied Agree that they use labels basically to identify the nutrient content of specific food product. 38.61% replied Agree that they use descriptive nutritional labels made on front of package, such as low in fat, high in DHA etc. 33.33% said Agree and same 33.33% said Strongly Agree that use food labels When them and their family member are following a special diet for medical reasons. Refer Table1.

**Table 1: Respondents' motivations for reading food labels**

	Respondents' motivations for reading food labels	Strongly Disagree	Disagree	Partially Disagree	Neutral	Partially Agree	Agree	Strongly Agree
M1	In a store while doing food shopping to assist with purchase decision	3.16%	5.91%	12.87%	16.03%	16.88%	<b>38.40%</b>	6.75%
M2	While buying packaged food product for the very first time	1.69%	8.02%	5.27%	9.07%	11.60%	<b>42.83%</b>	21.52%
M3	I see labels at home as this is more convenient	17.09%	<b>23.84%</b>	7.81%	11.18%	11.81%	21.10%	7.17%
M4	I use labels basically to identify the nutrient content of specific food product	0.00%	3.80%	6.33%	6.96%	15.61%	<b>46.20%</b>	21.10%
M5	I use descriptive nutritional labels made on front of package, such as low in fat, high in DHA etc.	1.27%	9.70%	3.38%	8.23%	15.40%	<b>38.61%</b>	23.42%
M6	When me or my family member is following a special diet for medical reasons.	0.42%	9.07%	1.27%	10.97%	11.60%	<b>33.33%</b>	<b>33.33%</b>

### Respondents' De-motivations for not reading food labels

De-motivating factors are categorized as difficulties that respondents encounter when using food labels and their reasons for not using food labels. Time consuming due to small font size in food labels, insufficient background knowledge of the customers, confusing ingredient list, price consciousness, taste consciousness and habit of customers are major factors explained.

It can further be stated that customers who are more involved in the search for and evaluation of information on the food label, they associate a higher risk with a product's use.

31.01% customer replied Agree when they were asked that reasons of not using label as they avoid reading labels as they find it too time consuming to read due to small font size. 30.38% said Disagree about they don't have sufficient background knowledge to understand the information on labels. 19.41% expressed Agree that they find the terms used in the ingredient list confusing. 29.11% said strongly Disagree about they choose food product on the basis of price and not on the basis of nutritional content. 29.54% said

Disagree about they believe that the taste of product is more important than the nutritional value. 21.52% are neutral about the believe that the nutritional claim on the front of package and do not verify with the nutritional table at the back of the package. 30.80% answered **Disagree** that they purchase food items out of habit without reading nutritional information on label.

**Table 2: Respondents' de-motivations for not reading food labels**

	Respondents' de-motivations for not reading food labels	Strongly Disagree	Disagree	Partially Disagree	Neutral	Partially Agree	Agree	Strongly Agree
DM1	I avoid reading labels as I find it too time consuming to read due to small font size	28.27%	<b>31.01%</b>	6.54%	5.49%	9.92%	17.30%	1.48%
DM2	I don't have sufficient background knowledge to understand the information on labels.	29.54%	<b>30.38%</b>	4.85%	9.92%	12.87%	11.81%	0.63%
DM3	I find the terms used in the ingredient list confusing	13.29%	19.20%	11.60%	11.81%	18.99%	<b>19.41%</b>	5.70%
DM4	I choose food product on the basis of price and not on the basis of nutritional content	29.11%	<b>24.68%</b>	11.39%	8.65%	13.71%	9.49%	2.95%
DM5	I believe that the taste of product is more important than the nutritional value	23.84%	<b>29.54%</b>	14.77%	7.38%	11.81%	9.92%	2.74%
DM6	I believe the nutritional claim on the front of package and do not verify with the nutritional table at the back of the package.	9.28%	18.99%	13.08%	<b>21.52%</b>	16.46%	17.93%	2.74%
DM7	I purchase food items out of habit without reading nutritional information on label.	19.20%	<b>30.80%</b>	14.35%	10.76%	10.34%	12.87%	1.69%

**Independent sample T test**

The independent sample t-test is a member of the t-test family, which consists of tests that compare mean values of data. The independent sample t-test compares two means. It assumes a model where the variables in the analysis are split into independent and dependent variables. Demographic factors such as Gender, Family type and Marital status are independent variables and various motivating and de-motivating factors are dependent variable. The model assumes that a difference in the mean score of the dependent variable is found because of the influence of the independent variable. Thus, the independent sample t-test is an analysis of dependence. The dependent Variables were tested against the Nominal variables; Gender, Family type and Marital status separately. Six motivating factors and seven de-motivating factors are separately analysed demographic factor such as gender.

The independent samples t-test compares the mean scores of two groups in a given variable, that is, two mean scores of the same variable, whereby one mean represents the average of that characteristic for one group and the other mean represents the average of that specific characteristic in the other group It helps to analyse whether the difference we see between the two independent samples is a true difference or whether it is just a random effect.

The independent samples t-test with different Motivating and de-motivating factors are carried out and only those factors are summed up in which the results found a significant difference between dependent and independent variables.

**Independent Sample T-test and Mean values for the Dependent Variables (selected Motivated/De-motivating Factors) on the basis of gender**

**Hypothesis**

- 1) **H<sub>0</sub>**: There is no significant difference between gender of customers and Usage of food label in a store while doing food shopping to assist with purchase decision.
- 2) **H<sub>0</sub>**: There is no significant difference between gender of customers and usage of labels at home as this is more convenient for consumers.
- 3) **H<sub>0</sub>**: There is no significant difference between gender of customers and usage of food labels when I or my family member is following a special diet for medical reasons.
- 4) **H<sub>0</sub>**: There is no significant difference between gender of customers and non usage of labels due to lack of sufficient background knowledge to understand the information on labels.
- 5) **H<sub>0</sub>**: There is no significant difference between gender of customers and non usage of labels due to selection of food product by customers on the basis of price and not on the basis of nutritional content.

**Table 3: Independent Sample T-test and Mean values for the Dependent Variables on the basis of gender**

	Description	Mean		Std Dev		T Test	Df	Sig. (2-tailed)	Hypothesis
		Male 225	Female 249	Male 225	Female 249				
M1	In a store while doing food shopping to assist with purchase decision	4.94	4.67	1.405	1.621	1.982	471.210	.048	H0:Rejected; H1:Accepted
M3	I see labels at home as this is more convenient	4.05	3.36	1.946	2.037	3.747	472	.000	H0:Rejected ; H1:Accepted
M6	When me or my family member is following a special diet for medical reasons.	5.42	5.71	1.563	1.517	-2.068	472	.039	H0:Rejected ; H1:Accepted
DM2	I don't have sufficient background knowledge to understand the information on labels.	3.12	2.59	1.837	1.735	3.228	472	.001	H0:Rejected ; H1:Accepted
DM4	I choose food product on the basis of price and not on the basis of nutritional content	3.14	2.75	1.836	1.823	2.299	472	.022	H0:Rejected ; H1:Accepted

On an average Male customers are more motivated with usage of food labels in store ( $M=4.94$ ,  $SE= 1.405$ ), then to Female customers ( $M=4.67$ ,  $SE= 1.621$ ), This Difference is significant  $t(472) = 1.982$ ,  $p > 0.05$  at 5% level of significance. Hence we reject the Null Hypothesis, i.e., We accept the alternate Hypothesis and conclude that at 95% confidence that There is a significant difference between gender of customers and Usage of food label in a store while doing food shopping to assist with purchase decision.

Similarly average Male customers are more motivated with usage of labels at home as this is more convenient for consumers ( $M= 4.05$ ,  $SE= 1.94$ ), then to Female customers ( $M= 3.36$ ,  $SE= 2.03$ ), This Difference is significant  $t(472) = 3.74$ ,  $p < 0.05$ , at 5% level of significance. Hence we reject the null Hypothesis, i.e., We accept the alternate Hypothesis and conclude that at 95% confidence that There is significant difference between gender of customers and usage of labels at home as this is more convenient for consumers.

But average Female customers are more motivated with usage of food labels when me or my family member is following a special diet for medical reasons ( $M= 5.71$ ,  $SE= 1.51$ ), then to Male customers ( $M= 5.42$ ,  $SE= 1.56$ ), This Difference is significant  $t(472) = -2.06$ ,  $p < 0.05$ , at 5% level of significance. Hence we reject the null Hypothesis, i.e., We accept the alternate Hypothesis and conclude that at 95% confidence that There is significant difference between gender of customers and usage of food labels when me or my family member is following a special diet for medical reasons.

On an average Male shoppers are more De-motivated with non usage of labels due to lack of sufficient background knowledge to understand the information on labels. ( $M= 3.12$ ,  $SE= 1.83$ ), then to Female shoppers ( $M= 2.59$ ,  $SE= 1.73$ ), This Difference is significant  $t(472) = 3.22$ ,  $p < 0.05$ , at 5% level of significance. Hence we reject the null Hypothesis, i.e., We accept the alternate Hypothesis and conclude that at 95% confidence that There is significant difference between gender of customers and non usage of labels due to lack of sufficient background knowledge to understand the information on labels.

On an average male shoppers are more Demotivated with selection of food product by customers on the basis of price and not on the basis of nutritional content. ( $M= 3.14$ ,  $SE= 1.8$ ), then to Female shoppers ( $M= 2.75$ ,  $SE= 1.83$ ), This Difference is significant  $t(472) = 2.29$ ,  $p < 0.05$ , This Difference is significant  $t(472) = 3.22$ ,  $p < 0.05$ , at 5% level of significance. Hence we reject the null Hypothesis, i.e., We accept the alternate Hypothesis and conclude that at 95% confidence that There is significant difference between gender of customers and non usage of labels due to selection of food product by customers on the basis of price and not on the basis of nutritional content.

## Conclusion

Male customers are more motivated with usage of food labels in home as well as usage of food labels in store, Female customers are more motivated with usage of food labels when them or their family member are following a special diet for medical reasons then to Male customers. They are more concerned towards health of their family members as compared to males.

Male shoppers are more De-motivated with non usage of labels due to lack of sufficient background knowledge to understand the information on labels then to Female shoppers. Male shoppers are more De-

motivated with selection of food product by customers on the basis of price and not on the basis of nutritional content then to Female shoppers, means that they are less price sensitive than females.

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