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## STUDY OF FACTOR AFFECTING THE PERCEPTION OF CONSUMER TOWARDS NUTRITION LABELING ON PRODUCT LIKE COOKIES/BISCUITS



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### ABSTRACT

Nutritional labeling is found to affect the consumer purchase behavior significantly. Nutritional labeling are based on different dietary targets for various nutrients than the labels on specific foods. Nutritional labeling has become of increasing interest to both consumers and policy makers. This study tries to identify the factors affecting the perception of consumer towards nutrition labeled product like cookies/biscuits. Exploratory research is being undertaken among respondents belonging to different age groups, gender, educational qualification, city and income groups. A sample size of 200 respondents is being considered for the study. Non- probabilistic judgmental sampling is the technique used for sampling. Structured questionnaire has been used to collect the required data for the study which includes a combination of open-ended and closed-ended questions. Factor Analysis is applied in order to identify the factors responsible for the perception of consumer towards nutrition labelling of products like cookies etc. four factors are identified as 'Lifestyle based purchase decisions', 'Investment of Time and Money', 'Information Related to nutrition labelling' and 'Knowledge related to nutrition labelling'.

**KEYWORDS** :Industrialization , primary producing , industrial development .

### INTRODUCTION

**Nutrition:** Nutrition is the food at work in our bodies, our source for energy, and the medium for which our nutrients can function. Think of nutrition as the building blocks of life. The essential nutrients for

life include carbohydrates, proteins, and lipids (fats), as well as fiber, vitamins, minerals, and water-the solvent for all soluble ingredients in the blood and cells. The absorption of nutrients starts the moment we begin to digest our foods, as they are transported to assist all the metabolic processes in the human body

Good nutrition means getting the right amount of nutrients from healthy foods in the right combinations. Having nutrition knowledge and making smart choices about the foods you eat can and will help you achieve optimum health over your lifetime, and be a key to avoiding obesity, illness, and many of today's most prevalent chronic diseases.

Nutrition is just one key to developing and maintaining good health. Good health is defined as a state of complete physical, mental and social well-being-a healthy mind, body, and spirit.

Nutrition is at work during our entire life-cycle-from infancy to adolescence, adulthood and in our senior years and can be the antidote for many of today's common problems, such as stress, pollution, sexual vitality and disease prevention.

**LABELING :** Display of information about a product on its container, packaging, or the product itself. For several types of consumer and industrial products, the type and extent of information that must be imparted by a label is governed by the relevant safety and shipping laws.

**NUTRITION LABELING:** People look at food labels for different reasons. But whatever the reason, many consumers would like to know how to use this information more effectively and easily. The following label-building skills are intended to make it easier for you to use nutrition labels to make quick, informed food choices that contribute to a healthy diet.

Listing of nutritional facts on food products labels was voluntary, although large manufacturers have been increasingly adopting the international practices. The Central Government has now made it compulsory for the packaged foods industry to list the nutritional facts per 100gm or 100ml or per serving of the products on their labels. This will enable the consumers to know if a pack of biscuit, chips, or fruit juice is high in nutrients or low in fats. This has been made possible by the new Prevention of Food Adulteration (Fifth Amendment) Rules, 2008. The Ministry of Health and Family Welfare has issued a notification on September 19, 2008, regarding this requirement and has given the industry six months to carry out the norms, that is by this month i.e. March 2009.

**CONSUMER BUYING BEHAVIOUR:** Buying Behaviour is the decision processes and acts of people involved in buying and using products. Consumer Buying Behavior refers to the buying behavior of the ultimate consumer. A firm needs to analyze buying behavior for:

- Buyers reactions to a firms marketing strategy has a great impact on the firms success.
- The marketing concept stresses that a firm should create a Marketing Mix that satisfies (gives utility to) customers, therefore need to analyze the what, where, when and how consumers buy.
- Marketers can better predict how consumers will respond to marketing strategies.

#### **LITERATURE REVIEW:-**

Brown and Schrader (1990) nutrition information on food items allows consumers to, eat a variety of foods, maintain a healthy weight, choose a diet with low saturated fat, and cholesterol, choose a diet with plenty of vegetables, fruits, and grain products, use sugars only in moderation, use salt and sodium in moderation. Consumers can use health claims, which appear on the front of food

packages, to identify foods with certain nutritional qualities related to risk factors and wellness. These are the claims about the relationship between a nutrient or a food and the risk of a disease or health-related condition.

According to Darby & Karni (1973), Nelson (1970), Roe & Sheldon (2007) Nutritional labeling has become of increasing interest to both consumers and policy makers. Nutritional attributes can be defined as credence attributes but can be transformed into search attributes once nutritional information is provided. Consumers, food processors, and third party entities all play a role in determining which of a food's many attributes are described on food labels. Policy interventions can be traced back as far as the White House Conference on Food, Nutrition, and Health in 1969. The Nutrition, Labeling, and Education Act (NLEA) of 1990 then gave the FDA the authority to require nutritional labeling for most food products. As a result, NFPs were implemented to improve consumers' access to nutritional information and to promote healthy food choices. There is a large literature investigating consumer demand and the use of nutritional labels. Yet evidence on whether this objective has been achieved has been mixed.

McCluskey and Swinnen (2004) identify opportunity cost and preferences for information vary across consumers, consumers' use of information varies as well. The effectiveness of nutritional labels lies in providing the appropriate nutritional label to specific consumer segments. Labels are likely to be effective when they address specific informational needs and can be processed and used by their target audience.

Drichoutis et al (2006), Mhurchu and Gorton(2007); Mackison et al (2008) have suggested that food labels have the potential to alter consumer purchasing behavior The point has been made, however, that consumers must be able to easily substitute a less healthy product for a healthier one. Consumers generally report being interested in nutrition labels, consider them credible sources of nutrition information and say they use them often.

Nutritional labels can simplify the whole concept of healthy eating. 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 judgement of a product's overall value Therefore, the nutritional panel is a guide to a better diet and a healthier life. Consumers can use the nutritional label to make food choices according to the Dietary Guidelines developed by health experts who emphasize the importance of a well-balanced diet.

Wansink and Huckabee (2005) studied marking or labelling (i.e., the provision of any kind of information) of food products has received by far the most attention. Though originally intended to prevent consumer misperception and general fraud, the concept of information provision has been widened and has become one of the pillars of general consumer protection and regulation. Consumer empowerment and, more specifically, the consumer's right to information are seen as important contributory factors in helping people make choices in their nutritional diet. Consequently, foodstuffs are labelled, ingredients are listed and nutrients have to be indicated. With the introduction of the Nutrition Labelling and Education Act (NLEA) in 1990, Congress provided a regulatory framework which has spurred even more research.

Seiders and Petty (2004) search for the controversy over the effectiveness of food labelling. It is far from agreed upon whether the provision of information and the regulation thereof is really effective in communicating the information to the consumer and, even more, whether it can actually change people's dietary habits. Behavioral change is especially difficult to demonstrate because the consumer behavior is not only highly complex, with many external and internal influences on perception, attitude and action, but also the information provided is often deliberately ignored by some consumers.

**OBJECTIVE:-**

Based on the above literature review there is a research gap identified in order to study the factor affecting the perception of consumer towards nutrition labelling. Following research objectives were framed.

- To study the factor affecting the perception of consumer towards nutrition labelled product like cookies/biscuits.

**RESEARCH METHODOLOGY:-**

This research study is an exploratory in nature. Such a research is conducted to discover new insights and ideas related with the topic of study. An exploratory study is undertaken when not much is known about the situation at hand or no information is available on how similar problem or research issues have been solved in the past. Exploratory studies are also necessary when some facts are known but more information is needed for developing a viable theoretical framework.

Exploratory research is being undertaken to develop some specific hypotheses relative to possible actions. It is used to find most likely alternatives, which are then turned into hypotheses. The results of exploratory research are not usually useful for decision-making by themselves, but they can provide significant insight into a defined situation.

Respondents belonging to different age groups, gender, educational qualification, city and income groups. A sample size of 200 respondents is being considered for the study. Non- probabilistic judgmental sampling is the technique used for sampling. Non probabilistic methods are such that do not provide every item in the universe with a known chance of being included in the sample. Non probability sampling techniques cannot be used to infer from the sample to the general population. A sample of units where the selected units in the sample have an unknown probability of being selected and where some units of the target population may even have no chance at all of being in the sample.

Structured questionnaire has been used to collect the required data for the study which includes a combination of open-ended and closed-ended questions. The questionnaire is divided into two sections for the ease in data collection and its further analysis. Section A includes demographic profile of respondents and Section B includes the components of each strategy that decides its effectiveness and is based on 5-point LIKERT scale. In this, responses will be recorded in quantitative form, starting from 1 denoting strongly agree to 5 denoting Strongly disagree. The questionnaire is designed in the way so as to achieve all the set objectives for this study. Factor analysis is a statistical method used to study the dimension or factors which affect consumers perception towards nutrition labelling of products like cookies/biscuits.

**DATA ANALYSIS AND INTERPRETATION:-**

Cronbach’s alpha test of reliability is applied on the sample of 200 in order to test the reliability of data and the tools for data collection.

**TABLE 1 : - Reliability Statistics**

Cronbach's Alpha	N of Items
.669	15

From the above table 1 its clear that our Cronbach's (alpha) is 0.669 for 15 items so the instrument is reliable to undergo data analysis.

The value of chronbach alpha is .669 for 15 items .That proves the instrument to be reliable enough to generate consistent results.

The value of Kaiser-Meyer-Olkin Measure of Sampling Adequacy is 0.782. High values (close to 1.0) generally indicate that a factor analysis is useful with our data.

If the value is less than 0.50, the results of the factor analysis probably won't be very useful.

A value close to 1 indicates that patterns of correlations are relatively compact so factor analysis could yield distinct and reliable factors. Kaiser (1974) recommends value more than 0.5 as acceptable.

The value of Bartlett's test of sphericity is 0.000. In our data Bartlett’s test is highly significant having p value 0.000 which is less than 0.5, therefore the R – Matrix is not identity and there lies correlation between variables.

Factor Analysis is applied in order to identify the factors responsible for the perception of consumer towards nutrition labelling of products like cookies etc.

**TABLE 2 :-KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.782
	Approx. Chi-Square	858.312
Bartlett's Test of Sphericity	Df	55
	Sig.	.000

The above Table-2 shows two tests that indicate the suitability of our data for structure detection. So from the above Table-2 its clear that the value of Kaiser-Meyer-Olkin Measure of Sampling Adequacy is 0.782. In result we found the KMO equals to 0.782 i.e the data lies in between 0.5 to 0.7 this range is named as mediocre.

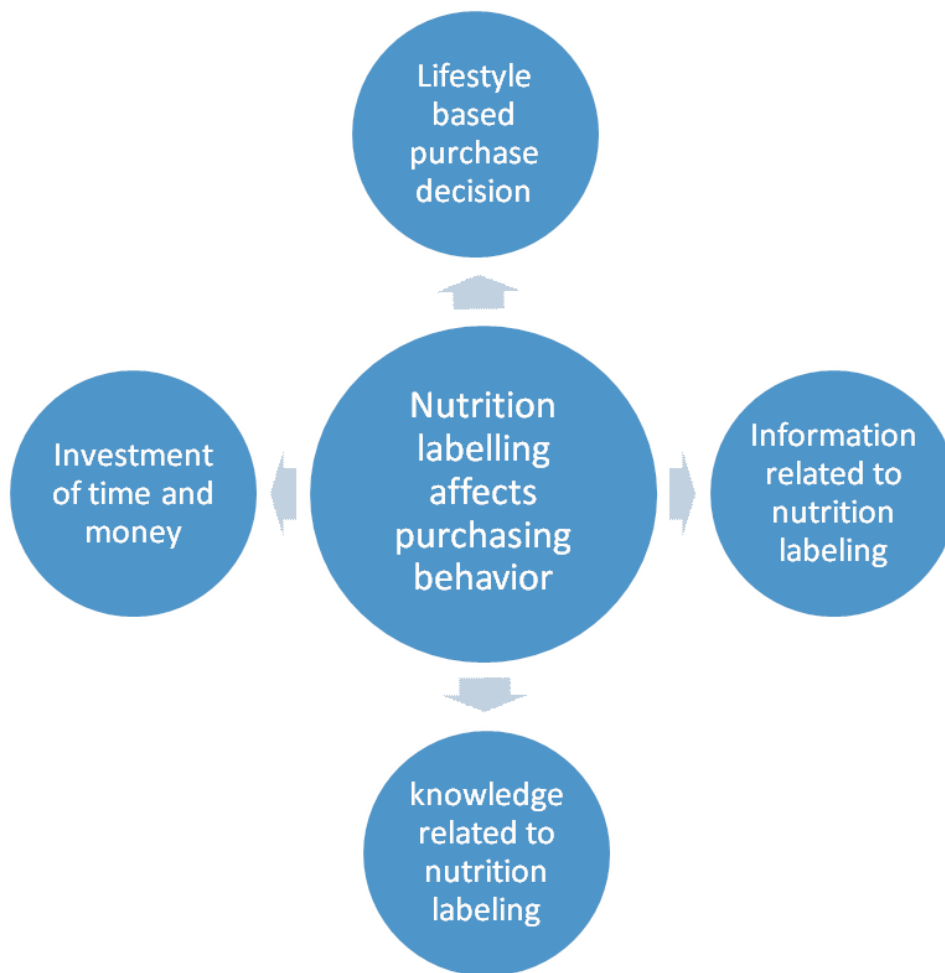
Bartlett's test of sphericity :- In our data Bartlett’s test is highly significant having p value .000 which is less than 0.5, therefore the R – Matrix is not identity and there lies correlation between variables.

TABLE-2:-Rotated Component Matrixa

	Component			
	1	2	3	4
• Are you ready to pay extra for nutrition labelled cookies/biscuits compared to non labelled cookies/biscuits	.890	-.202	-.038	.104
• Do you prefer to purchase nutrition labelled cookies / biscuits for your special diet.	.839	-.162	-.073	.204
• Do you think profession of an individual affects the purchasing decision of nutrition labelled cookies/biscuits	.797	.034	-.032	-.042
• Do your lifestyle affects your purchasing decision of nutrition labelled cookies/biscuits	.765	-.252	.186	-.220
• Do the use of nutrition labelling of cookies/biscuits leads to your dietary change.	.688	-.124	.229	.101
• Do you think reading nutrition labels of cookies/biscuits consume much time.	-.078	.877	.074	.149
• Do you think the nutrition labelled cookies/biscuits affects your grocery budget	-.495	.550	-.075	-.192
• Do you use nutrition labelling to make purchase decision of cookies/ biscuits.	-.109	-.034	.908	.101
• Do you think time plays a major role in purchasing nutrition labelled cookies/biscuits.	.268	.080	.637	-.287
• Do you rely on reading nutrition labels or on your own knowledge through print media or electronic media	.010	.117	-.095	.880
• Do you find ease in interpreting nutrition labels of cookies/biscuits.	.365	-.467	.072	.532

rotated component matrix is calculated after rotation. here we try to identify variables under each of four factors. From the rotated component matrix from table 2, four factors are identified as 'Lifestyle based purchase decisions', 'Investment of Time and Money', 'Information Related to nutrition labelling' and 'Knowledge related to nutrition labelling'.





The definition for the above stated factors identifies with the variables through which it is constituted.

**Lifestyle based purchase decision is Identified through Five variable and the variables are as follows:-**

- + Are you ready to pay extra for nutrition labeled cookies/biscuits compared to non labeled cookies/ biscuits .
- + Do you prefer to purchase nutrition labeled cookies / biscuits for your special diet.
- + Do you think profession of an individual affects the purchasing decision of nutrition labeled cookies/biscuits.
- + Do your lifestyle affects your purchasing decision of nutrition labeled cookies/biscuits.
- + Do the use of nutrition labeling of cookies/biscuits leads to your dietary change.

Second factor is ‘investment of time and money’ From the above table – 2 of rotated component matrix, we have got two variable and from that two variable ‘investment of time and money’ factor is constituted as :

- + Do you think reading nutrition labels of cookies/biscuits consume much time.
- + Do you think the nutrition labeled cookies/biscuits affects your grocery budget.

Third factor is ‘information related to nutrition labelling’ From the above table – 2 of rotated

component matrix, we have got two variable and from that two variable we will design a factor, as shown below:-

- + Do you use nutrition labelling to make purchase decision of cookies/ biscuits
- + Do you think time plays a major role in purchasing nutrition labeled cookies/biscuits

The fourth factor is 'knowledge related to nutrition labelling' From the above table – 2 of rotated component matrix, we have got two variable and from that two variable we will design a factor, as shown below

- + Do you rely on reading nutrition labels or on your own knowledge through print media or electronic media
- + Do you find ease in interpreting nutrition labels of cookies/biscuits.

### RESEARCH FINDING AND CONCLUSION:-

Thus from the research findings it is concluded that four factors contributes towards perception of consumer towards nutrition labeling on products like cookies/ biscuits.

The lifestyle based purchase decision factor contributes towards consumers pay extra for nutrition labelled cookies, it is also contributed towards the users diet which contributes as lifestyle of the consumers.

Investment of time and money factor contributed by the amount of time spent by the consumers towards reading nutrition labels and its effect towards grocery budgeted of cookies/ biscuits . factor is 'information related to nutrition labelling' is contributed by amount of information retrieved about nutritions from the labels which makes purchase decision of the consumers.

Also the 'knowledge related to nutrition labelling' plays an important decision towards consumers for the purchase of nutrition labelled cookies/ biscuits.

Thus we can conclude that the purchase decision of the products containing nutrition is based on the factors like 'Lifestyle based purchase decisions', 'Investment of Time and Money', 'Information Related to nutrition labelling' and 'Knowledge related to nutrition labelling'.

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